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## Title 28 EDUCATION

### Part CXXXIII. Bulletin 1674—Safety Manual for Career and Technical Education Programs

#### Chapter 1. Introduction

##### §101. Purpose

A. Rapid changes are occurring in our world and economy. The increasing complexity of work that spans the entire work force of today's society demands that education for all students be made more relevant and useful to future careers.

B. To prepare Louisiana Agricultural Education, Technology Education and Trade and Industrial Education Students to meet the demands of society and the workplace in the twenty-first century, industry-based certification standards were developed to address content knowledge and the application of skills. These standards focus on what students should know, be able to do, and be able to demonstrate in the workplace. They promote and develop critical thinking processes, which students will use in the classroom and real work applications, address the diversity of educational needs of Louisiana students enrolled in Career and Technical Education courses, and address industry-based certification programs for employability. This must be accomplished in a safe environment.

C. The Safety Manual for Career and Technical Programs was written to fulfill the need for an up-to-date industry-based practical educational resource that focuses upon the needs of teachers, supervisors, and students involved in laboratory instruction at the secondary level in Louisiana public schools. It is also intended for use in:

1. universities;
2. career centers;
3. high schools; and
4. junior high school career and technical education laboratories.

D. Louisiana has made significant strides toward improving the education of our children. Our goal is to build our strengths as we continue to improve education in our state. By developing rigorous standards and challenging assessments that align with industry-based standards and by holding schools accountable for results, we are ensuring a better future for our children.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:45 (January 2007).

##### §103. Intended Audience

A. The Safety Manual for Career and Technical Programs is intended for a broad audience, including agriculture, technology, trade and industrial education teachers, parents, school and district administrators, school board members, policy makers, Louisiana Department of Education staff, college/university faculty/administrators, business/industry leaders, and government agency staff. The framework serves as a guide for safety curriculum and instruction, and as a general reference "checklist" to the safety and health concepts and skills taught and adhered to within Louisiana career and technical education courses. The intended users of the framework include:

1. career and technical education teachers to use in planning curriculum, instruction, and assessment;
2. parents to use as a means of assessing the safety and effectiveness of their children's career and technical laboratories;
3. school and district administrators and school board members to use as a vision for safety and health education and a basis for planning resource allocations, materials purchases, local curriculum development, teachers' professional development, and faculty recruitment;
4. policy makers and state education staff to use as a basis for:
  - a. developing and obeying laws;
  - b. health and safety policies;
  - c. professional development activities and materials;
  - d. assessment strategies; and
  - e. funding priorities to support local program development;
5. university faculty and administrators to use as a basis for the content and design of pre-service and in-service teacher education programs regarding safety and health instruction;
6. business/industry leaders and government agency staff to use as a basis for developing effective partnerships for supporting safety and health education programs and professional development.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:45 (January 2007).

**§105. How Teachers Should Use This Publication**

A. This Part outlines the appropriate content to be taught in Louisiana Career and Technical Education programs that require laboratories. Local needs will determine how this should be taught in local career and technical education programs. Teachers will be able to use this framework to guide them in the restructuring of their laboratory curricula. This document contains specific performance criteria essential to laboratory safety education. These specific assessment criteria must be supported on the local level by all individuals involved in the educational process.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:45 (January 2007).

## **Chapter 3. Elements of a Successful Safety, Health and Environment Program**

**§301. Overview**

A. The key to preventing harm to school employees, students, and the environment is to establish a good occupational safety, health, and environmental program.

B. A good program may take years to put in place, but the guidelines below are a good place to begin. Start with individual items or parts of items. The guidelines are divided into five sections:

1. identify and prioritize potential hazards;
2. eliminate, prevent, and control hazards;
3. train employees, students, and management;
4. assure management commitment;
5. assure employee and student involvement:

a. the occupational safety, health, and environmental safety program should be tailored to the needs of the school, department, or school system. Small schools with limited resources may form safety and health cooperatives with other schools to help manage all or parts of their programs.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:45 (January 2007).

**§303. Identify, Prioritize Potential Hazards in Designated Areas**

A. Designated Areas. Divide the school and associated structures into designated areas and sub-areas.

1. Designate structural or functional major areas of the school (i.e., administrative offices, classrooms, labs, etc.)
2. Designate sub-areas of each major area (i.e., specific office, classroom or lab, etc.).

B. Conduct walk-through inspections.

1. Each designated sub-area should be inspected to identify potential hazards associated with the equipment, materials and function of the area.

2. Checklists specific to the equipment, materials and function of the area (See Inspection Worksheets) can help identify hazards and determine whether the organization complies with applicable safety and health or environmental regulations.

C. Compile and/or update a hazardous material inventory.

1. Record:
  - a. the names and amounts of all hazardous materials used;
  - b. the means of their disposal; and
  - c. the occurrence of any spills or releases on the premises.

2. Collect and maintain Material Safety Data Sheets (MSDSs) for all hazardous materials listed in the inventory.

3. Determine which hazardous materials are regulated by federal, state or local agencies. These include:

- a. the Occupational Safety and Health Administration (OSHA);
- b. the Environmental Protection Agency (EPA); and
- c. the Louisiana Department of Environmental Quality (LDEQ).

D. Maintain and update a process and equipment inventory.

1. Record the location of hazardous processes or equipment, and the dates when maintenance or monitoring must be performed.

2. Keep an inventory of safety equipment related to specific equipment and those who use it.

E. Establish a purchase screening procedure.

1. Establish a procedure for consideration of health and safety elements when purchasing goods and services and leasing new space. Avoiding a hazard is easier than controlling it.

2. Before any purchase of chemicals, equipment, or services, develop a system that may be reviewed by a safety representative or committee member.

3. Similarly, review plans for renovating, constructing, or leasing new facilities.

F. Investigate incidents, spills, and releases.

1. A safety representative or committee member should investigate every incident or release to determine how to prevent such a problem in the future.

2. A "Chemical Release" and other incident report forms should be developed. At a minimum, the form should have a space to answer, "What were the causes of the

incident or release?" and "What precautions or controls could have prevented the incident or release?"

3. Employees and students should be encouraged to report *near hits* or *close calls* as well.

#### G. Record Evaluation

##### 1. Evaluate injury and illness records.

a. The OSHA Log 300, a required employee occupational illness and injury record-keeping system, should be reviewed by persons responsible for safety and health on a regular basis.

b. Personal injury claims and workers' compensation claims may also identify whether certain classrooms, buildings, or processes pose an undue risk.

##### 2. Evaluate environmental records.

a. Review existing records such as the hazard communication inventory, air permits, hazardous waste records, solid waste records, and medical waste records to identify chemicals or processes that should be substituted, recycled, or prevented.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:46 (January 2007).

### §305. Eliminate, Prevent, and Control Hazards

#### A. Hazard Elimination

##### 1. Perform routine housekeeping.

a. Get rid of trash by disposing of it properly.

b. Make sure that hazardous chemicals and other materials are stored safely.

##### 2. Provide regular equipment maintenance, repair, and replacement.

###### a. Equipment includes:

- i. hazardous machinery;
- ii. safety gear; and
- iii. ventilation system.

###### b. Check that machine guards are in place.

c. Implement a maintenance and repair record-keeping system.

#### B. Hazard Control

##### 1. Engineering Controls

a. The safety and health controls that are built into a process are referred to as "engineering controls". Engineering controls are the first in the hierarchy of controls that are used to reduce teachers' and students' exposure to a hazard.

b. Incorporate safety and health controls in the design of the process or operation rather than have students

follow certain rules, wear protective gear, or clean up excess pollution.

##### c. Engineering controls may include:

- i. substitution;
- ii. isolation;
- iii. enclosure; and
- iv. ventilation of a process or equipment.

##### 2. Work Practice Controls and/or Programs

a. Written safety procedures may be developed for specific operations or tasks to control or eliminate the associated hazards.

b. Written general programs for respiratory protection, vehicle safety, etc., will help to emphasize the importance of specific controls.

#### C. Hazard Protection

##### 1. Provide personal protective equipment (PPE).

###### a. Respiratory Protections

i. Respiratory protection should be used only as a temporary or last-resort solution when engineering controls are inadequate to control the hazards.

ii. Respirators could be used routinely if job hazards require it.

b. Other forms of PPE could be required depending on the job and hazards involved and include:

- i. hearing protection;
- ii. welders' masks;
- iii. hard hats;
- iv. safety glasses or goggles.

c. Using PPE involves careful selection, maintenance, and user training.

2. Eyewash Facilities and Showers. Install eyewashes and/or showers near battery-changing stations, maintenance operations, heating and ventilating operations, and other processes that use corrosive chemicals or emit irritant aerosols.

D. Develop Emergency Response Plans and Procedures. (Additional guidance material may be found in Appendix F, Emergency Procedures, in the Safety Manual for Career and Technical Programs on the Louisiana Department of Education website (<http://www.doe.state.la.us/1de/index.html>).

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:46 (January 2007).

### §307. Employee, Management, and Student Training

A. Train all new employees and students. This training can be built into basic orientation and the curriculum.

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B. Provide mandated training programs to employees and students.

1. Depending on the types of classes the school provides, training may be required on the following:

- a. emergency procedures;
- b. fire prevention and the use of fire extinguishers;
- c. respiratory protection;
- d. occupational noise exposure;
- e. woodworking machinery;
- f. welding;
- g. asbestos handling;
- h. hazard communication;
- i. hazardous waste handling.

2. Training is also recommended for video display terminal operators.

3. Direct supervisors should receive the same training as the students or subordinates.

C. Train safety representatives and hazard prevention committees.

1. Training can enhance the ability of students and employees to carry out the functions listed in Subparagraphs a-i above. In particular, they may wish to obtain training in:

- a. computerizing the program;
- b. investigation of injuries or other incidents;
- c. safety and environmental record keeping;
- d. hazard identification and control;
- e. industrial hygiene fundamentals; or
- f. environmental regulations.

2. Outside training opportunities provide an essential means for safety, health, and environmental personnel to network with and learn from programs in other schools.

D. Training assistance may be obtained from various safety and health organizations, local industry and regulating agencies.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:47 (January 2007).

### **§309. Management Commitment**

A. Top administration must be involved. The school board, superintendent, school principal, and top school administrators should all be leaders in implementing the program. They should stay informed and involved.

B. Develop a written safety and health policy.

1. Top administration should issue a written policy supporting a safe and healthy environment in the schools.

2. This policy may take the form of one or more policy statements or a policy manual that covers issues ranging from safety procedures to energy conservation.

3. The policy should be posted and/or issued to all employees and students.

C. Assure adequate personnel resources.

1. Assign appropriate individuals responsibility for the functions listed in the remaining sections of this Chapter. It is important to select people who are competent and motivated, and who have the skills and adequate resources to do the job.

2. Make sure adequate time is given to do the job.

D. Assure adequate financial resources.

1. Money must be allocated for the safety and health program.

2. Make sure adequate time is given to do the job.

E. Evaluate program performance regularly.

1. The occupational safety and health and environmental safety program should be a part of all performance reviews, including those of top administration, teachers, and students.

2. Acknowledge those who have been involved in identifying and correcting hazards and working safely.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:47 (January 2007).

### **§311. Employee and Student Involvement**

A. Establish a hazard prevention committee.

1. A Hazard Prevention Committee should be composed of:

- a. representatives of management;
- b. school employees; and
- c. perhaps students.

2. For such a committee to succeed it should:

- a. be selected carefully;
- b. have a clear idea of its mission, power, and functions; and
- c. be skilled in conducting effective meetings.

3. This committee can do the following:

a. take on many of the functions described below that are too much for any one person;

b. seek immediate input from all areas of the school, such as:

- i. the classroom;
- ii. maintenance; and

iii. purchasing;

c. brainstorm by creatively combining and modifying ideas from many perspectives;

d. improve communication among the various representatives;

e. prioritize hazard controls, training, and other activities in a way that is satisfactory to all parties;

f. establish a procedure for reporting potential hazards using a written form.

B. Communicate regularly.

1. Use newsletters, bulletin boards, paycheck envelopes, and class time to communicate new procedures and new safety assignments and to introduce new committee members.

2. Keep the program on people's minds. Make safety, health, and the environment a regular item on the agenda of staff, board, union, and PTA meetings.

3. Post committee minutes, reports, surveys, and (especially) memos referring to problems, solutions, and achievements.

C. Develop a hazard-reporting procedure.

1. Students and employees should be encouraged to look for and report potential hazards to the safety and health coordinator, or to the chairperson of the Hazard Prevention Committee.

2. Students may also report hazards to a teacher, the school principal, or to another responsible adult. The person who discovers the hazard should then fill out the designated form and submit it to the safety and health coordinator for follow-up action.

3. Students should fill out this form with the help of the safety and health coordinator.

NOTE: Teachers, safety committees, and supervisors should not be discouraged if only small parts of an occupational safety and health environmental safety program are in place early in the program. It takes time, money, and persistence to have a good program. Each new step is a great improvement over the way things were run before the program was in place.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:47 (January 2007).

## Chapter 5. Curriculum Content

### §501. Introduction

A. Career and technical instruction is important not only for the knowledge and skills it provides for the learner but, perhaps even more so, for the attitudes it imparts to the learner. These attitudes will, in large part, influence the manner in which the learner will employ his/her newly gained knowledge and skills. They become a formidable influence for the remainder of the learner's life.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:48 (January 2007).

### §503. Two-Fold Objective

A. One of the most important attitudes a young person can pick up is a healthy respect for safety and health on the job. This attitude affects not only the learner, but all of the others with whom he/she will associate. Someday their very lives may depend on having assumed a deep-seated conviction that the only way to do a job is the safe way. Therefore, educators have a two-fold objective:

1. to provide the job knowledge base in the area of the educator's own expertise in the best possible manner possible. Both the manual and mental skills must be provided that will best prepare the future worker for his/her job in this increasingly complex, technical world; and

2. an integral part of the instructional process must be safe methods for doing each and every job. Students must be taught, not as the best way to do a job, but as the only way to do a job. In other words, if a job is not performed safely, it is not performed correctly.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:48 (January 2007).

### §505. Purposes of the Manual

A. The Manual serves two purposes.

1. The Manual provides guidelines that can be used to develop inspection checklists that can be used for instructional facilities. Students will recognize the measures that have implemented to make a workplace safe. They can participate in the inspections. When they go into the workplace of their eventual employment, they will be equipped to recognize the safety measures that are already in place, and they will know how to add what needs to be done to complete the safety and health process. The guidelines are found in Subpart 3, Inspection Worksheets.

2. The Manual provides five basic elements, listed in §507, that should be incorporated into the instructional materials to teach principles of safety and health along with the technical content of the curriculum. These elements should become an integral part of the instructional method, as if it were the only way to teach and perform the job. Students should understand that there is no alternative way to work other than the safe way.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:48 (January 2007).

### §507. Curriculum Elements

A. Five Curriculum Elements

1. Safe Job Procedures. Each lesson plan must include emphasis on the step-by-step procedures to accomplish the project. Students must learn that the only way to do the job

is by following the procedures. Short cuts are not permitted. Changes in procedures are allowed only when it can be shown that they are as safe, or safer, than the original procedures. The instructor must both set the tone and demonstrate the example of how it is done by his/her own work. It must be exemplary. The instructor will be the most memorable influence students will have.

2. Clean Workplace. Workplace housekeeping is probably the clearest indicator of the amount of emphasis that a safety program is getting. Safety professionals learned long ago that the impressions they get in the first few minutes on the job regarding the general cleanliness and order of the work site are accurate predictors of the rest of the safety program. Each classroom lesson must emphasize the importance of complete and thorough cleanup at the end of each work period. The lesson should also point out that hazards, such as spills, etc., may be created while work progresses, and when this occurs, the project should be halted temporarily while the situation is corrected. Then work can continue.

3. Well-Maintained Equipment and Machinery. Instruction must include how to inspect machinery for signs of wear and damage. It must include proper preventive maintenance intervals and techniques. It must also include the proper and safe way to remove a defective piece of equipment from service and to secure it so that it cannot be used until the repairs have been completed.

#### 4. Proper Use of Machines and Equipment

a. Students must learn that machine guards have a critical purpose that must never, under any circumstances, be circumvented. A machine must never be operated without all of its guards in place. If a student feels awkward or clumsy using the guards, special attention should be provided until he/she feels comfortable with the guards in place.

b. A student should always be taught the importance of using the proper tool for the job, and the right way to use that tool. Operating parameters such as adjustments, speeds, and other important factors must all be included. New trainees should be taught with the objective in mind that they will become experts on the equipment, and they can take great pride in their work and their newly acquired skills.

5. Personal Responsibility and Integrity. The entire structure of workplace safety and health rests upon the two pillars of responsibility and integrity. Students must understand that honesty is not just the best policy—it is the only policy. They must learn that, where workplace safety and health are concerned, reporting accidents promptly and accurately is of paramount importance. Problems can be corrected and hazards eliminated only when there is adequate factual information. Hiding details to avoid taking responsibility leads to exercises in futility when trying to correct problems. Instructors contribute by helping the student understand that an accident investigation is not an attempt to lay blame upon someone, but rather, an effort to find the sequence of events that went wrong, and to correct them so they will not occur again.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:48 (January 2007).

## Subpart 3. Inspection Worksheets

### Chapter 15. Emergency Procedures

#### Worksheet

#### Subchapter A. Introduction

##### §1501. Worksheet Instructions

A. Use the following worksheet as a guide to conduct a survey of instructional facilities. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

1. Additional guidance material may be found in Appendix F, Emergency Procedures, in the Safety and Health Manual on the Louisiana Department of Education website (<http://www.doe.state.la.us/lde/index.html>).

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:49 (January 2007).

#### Subchapter B. Hazard Identification

##### §1507. Injuries and Illnesses

###### A. Medical Care

	Circle the Appropriate Answer
1. Are provisions made in advance of any project or class involving potential hazards for prompt medical attention in case of any injury?	Y N N/A
2. Is an injury/illness response program in place?	Y N N/A
3. Have persons with disabilities and/or chronic illnesses been identified?	Y N N/A
4. Are medical personnel available for advice and consultation?	Y N N/A
5. If emergency medical care is not readily available, is a certified person available to render first aid? <i>Certified Person</i> —a person who has a valid certificate in first-aid training from the American Red Cross, or equivalent training that can be verified by documentary evidence.	Y N N/A
6. Are first-aid supplies readily available?	Y N N/A
7. Are first-aid supplies in a weatherproof container with individual sealed packages for each type of item?	Y N N/A
8. Are first-aid supplies checked to replace expended items on a regular basis?	Y N N/A
9. Is transportation available for taking an injured or ill person to medical care if necessary, or is a communication system available for contacting an ambulance service?	Y N N/A
10. Are telephone numbers of physicians, hospitals, or ambulances conspicuously posted?	Y N N/A



AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:49 (January 2007).

### §1509. Emergency Response

#### A. Emergency Plans and Systems

	Circle the Appropriate Answer
1. Has an emergency action plan and procedures to respond to emergency situations been established?	Y N N/A
2. Have high potential hazards such as fire hazards, hazardous materials locations, hazardous equipment locations and other hazards and issues specific to the site been identified?	Y N N/A
3. Have emergency systems (i.e., fire alarms, sprinkler systems, etc.) and emergency equipment used for fire and spill control, etc., been identified?	Y N N/A
4. Is there a procedure to account for all persons on-site in the event of an emergency?	Y N N/A
5. Have personnel responsibilities for rescue and medical emergencies been established?	Y N N/A
6. Have mechanisms to report emergency situations to proper authorities been established?	Y N N/A
7. Are evacuation route maps posted in designated areas to display: a. emergency exists; b. primary and secondary exit routes; c. locations of: i. fire extinguishers; ii. fire alarm pull station locations; and iii. assembly points?	Y N N/A
8. Are all emergency procedures reviewed and updated on a regular basis?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:49 (January 2007).

### §1511. Training

#### A. Certification and Training

	Circle the Appropriate Answer
1. Are all personnel and students instructed on injury, illness, emergency response procedures and their specific roles on a regular basis?	Y N N/A
2. Do designated certified persons obtain and maintain their certifications through the American Red Cross or other qualified organizations?	Y N N/A
3. Are periodic drills conducted to prepare students and personnel in the event of an emergency?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:50 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §1519. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter, Hazard Identification, and to assign it a value corresponding to its relative risk. *Relative Risk* is usually defined in terms of three factors:

- severity;
- frequency/probability; and
- exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below and the point values are provided for the corresponding degree of risk.

NOTE: The greater the risk, the higher the point value.

B. Severity. Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 15, Hazard Identification, result in an actual incident. The following point values are suggested.

#### 1. Four Points—Catastrophic:

- loss of life;
- permanent disability;
- loss of entire facility;
- permanent.

#### 2. Three Points—Critical:

- severe injury or illness with lost time;
- major property damage;
- no permanent disability or fatality;
- interruption of activities for extended period of time.

#### 3. Two Points—Marginal:

- minor injury or illness;
- minor property damage;
- interruption of activities for more than one day.

#### 4. One Point—Negligible:

- probably no injury or illness;
- no loss other than interruption of activities for a short period of time.

#### C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

a. How likely is it that things will go wrong as a result of the hazard that has been identified?

b. How often is the activity which creates the hazard performed?

c. How often is the hazard present?

2. Use the following point values.

a. Three Points—high probability of occurrence.

b. Two Points—moderate probability of occurrence.

c. One Point—low probability of occurrence.

D. Exposure. Consider the number of persons (students and faculty) who could be potentially affected by a worse case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

1. Three Points—many persons are affected frequently.

2. Two Points—a few persons are affected frequently.

3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter, and evaluated in §1519.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 15 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §1519.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one with the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility, based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources

expended to eliminate it. As with all organizations, especially educational institutions, resources are without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:50 (January 2007).

## Subchapter D. Hazard Control Measures

### §1529. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments;

3. number of persons involved in an activity, etc.; and
4. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:51 (January 2007).

## Chapter 17. Environmental Protection Worksheet

### Subchapter A. Introduction

#### §1701. Worksheet Instructions

A. Use the following worksheet as a guide to conduct a survey of the instructional facility. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

1. Additional guidance material may be found in Appendix E, Indoor Air Quality, in the Safety and Health Manual on the Louisiana Department of Education website (<http://www.doe.state.la.us/lde/index.html>).

NOTE: See Appendix E: Indoor Quality for additional guidance material.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:51 (January 2007).

### Subchapter B. Hazard Identification

#### §1707. Air Pollution Control

##### A. Air Pollution Control Permits

	Circle the Appropriate Answer
1. Are air pollution permits on file for the equipment or operations permitted under state regulations?	Y N N/A
2. Is a procedure in place to ensure air pollution control permits and certificates are applied for and received before the installation and operation of new equipment?	Y N N/A

##### B. Requirements for Gasoline-Powered Engines

	Circle the Appropriate Answer
1. Is the removal of any emission control device from a gasoline-powered engine prohibited except during repairs or replacement activities?	Y N N/A
2. When catalytic converters are replaced on automobiles, are they only replaced by the same type of converter as the original (i.e., oxidation, three-way, or three-way plus oxidation), and are they the same type of converter specified by the vehicle catalog?	Y N N/A

C. Volatile Organic Compound (VOC) Surface Cleaners. Questions in this Subsection C are based on EPA Reasonable Available Control Technology (RACT) guidelines for solvent cleaners.

	Circle the Appropriate Answer
1. Are all tanks that contain VOC equipped with a lid to prevent evaporation or escape of vapors when the tank is not in use? (e.g., auto body shops, metalworking shops, etc.)	Y N N/A
2. Do all unheated open-top surface cleaners with openings between 6 and 25 square feet (auto body shops): a. have a high liquid mark to prevent overfilling; b. have a wand that produces mist or droplets or delivers spray below 15 pounds per square inch (psi); c. have a freeboard ratio of 0.5 or greater?	Y N N/A
3. Do all unheated open-top surface cleaners with openings >25 square feet have either: a. a freeboard ratio of 0.75 or greater; or b. a freeboard ratio of 0.5 or greater and separation from windows, exhaust systems, and other sources of drafts?	Y N N/A
4. Do all heated open-top and surface cleaners have the following: a. a thermostat that automatically maintains temperature below the boiling point of the liquid; b. a cover that is kept closed except when processing parts; c. no agitating system that can cause splashing; and d. a freeboard ratio >0.75?	Y N N/A
5. In addition to meeting the above conditions, do all conveyORIZED surface cleaners have: a. a condenser with heat removal capacity greater than the input into the bath; b. a freeboard chiller or a vapor control system; c. covers protecting the conveyor inlet; d. outlet ports for reduction of losses when the cleaner is not in use; and e. hanging flaps when the unit is in use?	Y N N/A
6. Do written standard operating procedures govern the proper use, inspection, and maintenance of all surface cleaners?	Y N N/A
7. Have all persons using this equipment been trained in these standard operating procedures?	Y N N/A
8. Are copies of the standard operating procedures located at the cleaner?	Y N N/A

## D. Surface Coating and Graphic Arts

	Circle the Appropriate Answer
1. Are all surface-coating operations done with controls to prevent emissions of VOCs? (paint spray booths, graphic arts shops) [RACT Reference 2, RACT Reference 3]	Y N N/A

## E. Dry Cleaning Operations

	Circle the Appropriate Answer
1. Are petroleum-using dry cleaning operations with a manufacturer's total dryer capacity equal to or greater than 84 pounds equipped with a cartridge filter?	Y N N/A
2. Are all solvent filtration systems operated so that cartridge filters are allowed to drain for eight hours before removal?	Y N N/A
3. Are all leaking washers, dryers, filters, etc., that could result in VOC emissions corrected immediately?	Y N N/A
4. Is information about leak inspection and repair procedures clearly posted?	Y N N/A

## F. Dry Cleaning Operations Using Perchloroethylene

	Circle the Appropriate Answer
1. Are all dry cleaning machines connected to a properly operated and maintained air pollution control device?	Y N N/A
2. Are all transfer dry cleaning units operated in a room or enclosure that vents all solvent vapors to an air pollution control device?	Y N N/A
3. Are policies in place to prevent the venting or release of perchloroethylene vapors at any time?	Y N N/A
4. Is a complete check for leaks performed weekly?	Y N N/A
5. Are condenser control devices operated at less than 45°F?	Y N N/A
6. Are the exhaust emissions from carbon absorbers checked weekly?	Y N N/A

## G. Toxic Substances

	Circle the Appropriate Answer
1. Do all cold-cleaning machines using toxic substances have a 1-inch layer of water on the solvent surface, or a freeboard ratio of 0.75 or more?	Y N N/A
2. Are all waste solvents stored in closed containers with pressure relief systems?	Y N N/A
3. Are all spills cleaned up immediately, and are the wipe rags stored in covered containers?	Y N N/A
4. Do all heated-vapor machines have a device to shut off the sump heater if the solvent levels drop to the heater coils?	Y N N/A
5. Are all heated-vapor machines provided with a pollution control device designed to keep emissions below 0.045 lbs/hour?	Y N N/A
6. Are standard operating procedures written for all open-top surface cleaners that contain toxic substances?	Y N N/A

	Circle the Appropriate Answer
7. Do all persons using this equipment receive training in and adhere to the standard operating procedures?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:51 (January 2007).

## §1709. Indoor Air Quality

## A. General

	Circle the Appropriate Answer
1. Is someone designated to develop and implement an indoor air quality management plan for your school district?	Y N N/A
2. Does your district have an indoor air quality management plan that includes steps for preventing and resolving indoor air quality problems?	Y N N/A
3. Has your school district been tested for radon, and have radon-mitigation systems been installed where needed?	Y N N/A
4. Does your school district use integrated pest management in all areas?	Y N N/A
5. Is spot-treatment of pesticides used to control infested areas?	Y N N/A
6. Are all pesticide applicators trained in the safe use of pesticides?	Y N N/A
7. Have painted surfaces in your district been tested for lead-based paint, and has a lead control or removal program been implemented?	Y N N/A
8. Are school buildings inspected once or twice each year for conditions that may lead to indoor air quality problems?	Y N N/A
9. Is a preventive maintenance schedule established and in operation for the heating, ventilation, and air conditioning (HVAC) system? Is the schedule in accordance with the manufacturer's recommendations or accepted practice for the HVAC system?	Y N N/A
10. Does the HVAC preventive maintenance schedule include the following: a. checking and/or changing air filters and belts; b. lubricating equipment parts; c. checking the motors; and d. confirming that all equipment is in operating order?	Y N N/A
11. Are damaged or inoperable components of the HVAC system replaced or repaired as appropriate?	Y N N/A
12. Are reservoirs or parts of the HVAC system with standing water checked visually for microbial growth?	Y N N/A
13. Are water leaks that could promote growth of biologic agents promptly repaired?	Y N N/A
14. Are damp or wet materials that could promote growth of biologic agents promptly dried, replaced, removed, or cleaned?	Y N N/A
15. Are microbial contaminants removed from ductwork, humidifiers, other HVAC, building system components, and from building surfaces (i.e., carpeting and ceiling tiles) when found during regular or emergency maintenance activities or visual inspection?	Y N N/A

	Circle the Appropriate Answer
16. Is general or local exhaust ventilation used where housekeeping and maintenance activities could reasonably be expected to result in exposure to hazardous substances above applicable exposure limits?	Y N N/A
17. When point sources generate airborne concentrations of contaminants above applicable limits, are local exhaust ventilation or substitution used to reduce the exposure concentrations to below the limits?	Y N N/A
18. When the carbon dioxide level exceeds 1,000 parts per million, is the HVAC system checked and repaired as necessary to ensure the system is operating properly?	Y N N/A
19. When the temperature is outside the range of 68° to 79°F, is the HVAC system checked and repaired as necessary to ensure the system is operating properly?	Y N N/A
20. Are humidity levels maintained between 30 percent to 60 percent relative humidity?	Y N N/A
21. When a contaminant is identified in the make-up air supply, is the source of the contaminant eliminated, or are the make-up inlets or exhaust air outlets relocated to avoid entry of the contaminant into the air system?	Y N N/A
22. If buildings do not have mechanical ventilation, are windows, doors, vents, stacks, and other portals used for natural ventilation operating properly?	Y N N/A
23. Are complaints promptly investigated that may involve a building-related illness?	Y N N/A

## B. Smoking

	Circle the Appropriate Answer
1. Is smoking in school buildings prohibited except as part of a classroom instruction or a theatrical production?	Y N N/A
2. Do written district board of education policies and procedures prohibit smoking in school buildings?	Y N N/A

## C. Renovations and Remodeling

	Circle the Appropriate Answer
1. During renovation work or new construction, are local ventilation or other protective devices used to safeguard employees and students from dust, stones, other small particles, and toxic gases, which may be harmful in certain quantities?	Y N N/A
2. Are renovation areas in occupied buildings isolated so that dust and debris is confined to the renovation or construction area?	Y N N/A
3. Are precautions implemented in case lead-based paint is disturbed during renovation or new construction?	Y N N/A
4. When renovating or during new construction, are product labels checked, or is information obtained on whether paints, adhesives, sealants, solvents, insulation, particleboard, plywood, floor coverings, carpet backing, textiles, or other materials contain volatile organic compounds that could be emitted during regular use?	Y N N/A

	Circle the Appropriate Answer
5. Are employees notified at least 24 hours in advance, or promptly in emergency situations, of work to be performed on the building that may introduce air contaminants into their work area?	Y N N/A

## D. Shafting

	Circle the Appropriate Answer
1. Is the maintenance schedule updated to show all maintenance performed on the building systems?	Y N N/A
2. Does the maintenance schedule include the dates that the building systems maintenance was performed and the names of the persons or companies performing the work?	Y N N/A
3. Are maintenance schedules retained for at least three years?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:52 (January 2007).

**§1711. Hazardous Waste Management**

## A. Generators of Regulated Amounts of Hazardous Waste

	Circle the Appropriate Answer
1. Does the container storing hazardous waste meet U.S. Department of Transportation container requirements?	Y N N/A
2. Is the container storing hazardous waste in good condition?	Y N N/A
3. Is the container storing hazardous waste compatible with the waste material? (For instance, solvents and paint waste should be placed in steel drums, but acidic or alkaline waste should not be placed in steel drums.)	Y N N/A
4. Is the container storing hazardous waste kept securely closed when not in use?	Y N N/A
5. Are unused keyways filled up or covered?	Y N N/A
6. Is the container storing hazardous waste at or near the point of generation and under the operator's control?	Y N N/A
7. Is the container storing hazardous waste marked with the words "Hazardous Waste"?	Y N N/A
8. If the container is being shipped for disposal, have arrangements been made for a licensed treatment, storage, and disposal (TSD) facility to accept the hazardous waste?	Y N N/A
<i>Note: Although the school is responsible for completing manifest forms, the TSD facility handling the waste should be consulted about completing the paperwork necessary to ship hazardous waste.</i>	

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	Circle the Appropriate Answer
9. If the container is being shipped for disposal, have arrangements with the registered hazardous waste hauler been made for transport of wastes to the TSD facility?	Y N N/A
10. Have hazardous waste manifests been completed for all shipments of hazardous wastes within your state (or other state's manifest for shipments to other states)?	Y N N/A
11. Has a copy of the manifest with the signature of the initial transporter and date of shipment been retained by the school?	Y N N/A
12. Has the hauler been supplied with all remaining copies of the manifest?	Y N N/A
13. Have "Land Ban" forms been completed prohibiting land disposal of affected wastes unless treated below regulatory levels?	Y N N/A
14. Have appropriate markings and labels been affixed to containers prior to shipment?	Y N N/A
15. Has the hauler's vehicle been inspected by the generator (or his/her designee) to ensure proper placarding before leaving the generator's premises?	Y N N/A
16. Has the school kept a copy of each signed manifest for at least three years, or until a copy is received from the owner and operator of the facility that received the waste, for at least three years?	Y N N/A
17. Has the school prepared and submitted a copy of a Biennial Report to the EPA regional administrator by March 1 of each even numbered year for all hazardous waste shipped off-site for treatment, storage, or disposal?	Y N N/A

## B. Satellite Accumulation Sites

	Circle the Appropriate Answer
1. Is the quantity of acutely toxic waste less than 55 gallons or less than one quart for acutely toxic waste?	Y N N/A
2. If the quantities of hazardous waste exceed the amounts in question 1 above, are the containers moved within three days to a less than 90-day accumulation area, or off-site to an authorized facility?	Y N N/A

## C. Small Quantity-Generator (Generate between 100 and 1,000 Kilograms of Hazardous Waste Per Month)

	Circle the Appropriate Answer
1. Have hazardous waste containers been accumulated at your facility for 180 days or less? <i>Note: If you store hazardous waste for more than 180 days, additional regulations apply which are not covered in this checklist. Contact your state environmental agency for additional information. The quantity of waste accumulated on-site may never exceed 6,000 kilograms. Wastes may be stored longer than 180 days for certain situations.</i>	Y N N/A

	Circle the Appropriate Answer
2. Are containers marked with accumulation start date?	Y N N/A
3. Are container labels visible?	Y N N/A
4. Are containers segregated according to waste type?	Y N N/A
5. Are the containers inspected weekly?	Y N N/A
6. Is there adequate aisle space between container rows? <i>Note: 18 inches between single stacked drums and 30 inches between double or triple stacked drums.</i>	Y N N/A
7. Is there immediate access to communication or alarm systems whenever hazardous waste is poured, mixed, or handled?	Y N N/A
8. Is there an adequate supply of fire extinguishers and spill control equipment in the accumulation area?	Y N N/A
9. Is there adequate water pressure to supply fire hoses?	Y N N/A
10. Is the fire fighting equipment, communications and alarm equipment, and decontamination equipment, spill control and water supply tested and maintained?	Y N N/A
11. Have the police, fire department, and emergency response teams been familiarized with the layout of the facility?	Y N N/A
12. Are there written agreements with emergency response contractors and equipment suppliers?	Y N N/A
13. Have arrangements been made with the local hospitals to familiarize them with the properties of the hazardous waste handled at your facility and the types of injuries, which may result from contact with these wastes? (This is usually a letter to the local hospitals identifying the wastes generated and the types of injuries that result from contact with the waste.)	Y N N/A
14. Is there an emergency coordinator on site or on call who is available to respond to an emergency? <i>Note: The emergency coordinator or his designee must respond to any emergencies that arise.</i>	Y N N/A
15. Is the following information posted next to the telephone: a. the name and address of the emergency coordinator; b. the location of fire extinguishers and spill control material, and if present, fire alarm; and c. the telephone number of the fire department, unless the facility has a direct alarm? <i>Note: In the event of a fire, explosion, or other release which could threaten human health outside the facility, or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Response Center (using their 24-hour toll free number 800-424-8802).</i>	Y N N/A
16. Are all employees thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies?	Y N N/A

	Circle the Appropriate Answer
17. Has the school notified the EPA regional administrator of any manifests that were not received for shipments made to a designated facility within 60 days?	Y N N/A

**D. Large Quantity Generator (Generate More than 1,000 Kilograms of Hazardous Wastes per Month)**

	Circle the Appropriate Answer
1. Have hazardous waste containers been accumulated at your facility for 90 days or less? <i>Note: If you store hazardous wastes for more than 90 days, additional regulations apply which are not covered in this checklist. Contact the Louisiana Department of Environmental Quality (LDEQ) at 225-342-1234 for additional information.</i>	Y N N/A
2. Are containers marked with accumulation start dates?	Y N N/A
3. Are container labels visible?	Y N N/A
4. Are containers segregated according to waste type?	Y N N/A
5. Are the containers inspected weekly?	Y N N/A
6. Are containers of ignitable and reactive wastes located greater than 50 feet from the facility's property line?	Y N N/A
7. Is there adequate aisle space between container rows?	Y N N/A
8. Is there immediate access to communication or alarm systems whenever hazardous waste is poured, mixed, or handled?	Y N N/A
9. Is there an adequate supply of fire extinguishers and spill control equipment in the accumulation area?	Y N N/A
10. Is there adequate water pressure to supply fire hoses?	Y N N/A
11. Is the fire fighting equipment, spill control and water supply tested and maintained?	Y N N/A
12. Have the police, fire department and emergency response teams been familiarized with the layout of the facility?	Y N N/A
13. Are there written agreements with emergency response contractors and equipment suppliers?	Y N N/A
14. Have arrangements been made with the local hospitals to familiarize them with the properties of the hazardous waste handled at your facility and the types of injuries, which may result from contact with these wastes? (This is usually a letter to the local hospitals identifying the wastes generated and the types of injuries that result from contact with the waste.)	Y N N/A
15. Has a contingency plan been developed describing the actions to be taken by facility personnel in the event of a fire, explosion or hazardous materials release?	Y N N/A
16. Does the plan describe arrangements with local authorities including fire police, and emergency medical services personnel, for handling such emergencies?	Y N N/A

	Circle the Appropriate Answer
17. Does the plan list telephone numbers for the emergency coordinator and alternates?	Y N N/A
18. Does the plan list the locations and capabilities of emergency equipment kept at the school including fire extinguishers, spill control equipment and communications and alarm systems and decontamination systems?	Y N N/A
19. Does the plan include primary and alternate evacuation routes for students and faculty?	Y N N/A
20. Is a copy of the plan available at the school for inspection?	Y N N/A
21. Has a copy of the plan been forwarded to local emergency agencies including: a. police; b. fire emergency medical; c. the local emergency planning committee; and d. any emergency response contractors who may be called upon during an accident?	Y N N/A
22. Are there provisions for updating the contingency plan as operations and/or personnel change?	Y N N/A
23. Is the training program directed by a person trained in hazardous waste management procedures?	Y N N/A
24. Is the training program designed to ensure that personnel are able to respond effectively?	Y N N/A
25. Does the training program include: a. procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; b. key parameters for automatic waste feed cut-off systems; c. communications for alarm systems; d. response to fires or explosions; e. response to ground-water contamination incidents; and f. shutdown of operations?	Y N N/A
26. Does the plan include provisions for: a. the use of personnel safety equipment; b. procedures for using facility emergency and monitoring equipment; c. procedures for utilizing communications or alarm systems; d. response procedures for fires and explosions; e. ground water contamination response procedures?	Y N N/A
27. Is training provided for all employees of this facility within six months of the date of employment, or assignment to an area involving the handling of hazardous waste?	Y N N/A
28. Is training reviewed annually?	Y N N/A
29. Is training documented with the following information: a. job title for each position and the name of the person filling each job; b. a written job description; c. a description of the training given; and d. documentation of actual training?	Y N N/A

	Circle the Appropriate Answer
30. Are training records maintained for at least three years?	Y N N/A
31. Has the school contacted the transporter and/or owner or operator of the designated facility of any manifests which were not received for shipments made to a designated facility within 35 days?	Y N N/A
32. Has an Exception Report been submitted to the EPA regional administrator if the generator has not received a copy of the manifest within 45 days? <i>Note: Efforts to obtain the manifest must be documented.</i>	Y N N/A
33. Are Biennial Reports and Exception Reports kept on file for three years?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:54 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §1721. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 17, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- severity;
- frequency/probability; and
- exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

NOTE: The greater the risk, the higher the point value.

B. Severity. Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 17, Hazard Identification, result in an actual incident. The following point values are suggested.

- Four Points—Catastrophic:
  - loss of life;
  - permanent disability;
  - loss of entire facility;
  - permanent.
- Three Points—Critical:
  - severe injury or illness with lost time;
  - major property damage;

- no permanent disability or fatality;
- interruption of activities for extended period of time.

#### 3. Two Points—Marginal:

- minor injury or illness;
- minor property damage;
- interruption of activities for more than one day.

#### 4. One Point—Negligible:

- probably no injury or illness;
- no loss other than interruption of activities for a short period of time.

#### C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- How likely is it that things will go wrong as a result of the hazard that has been identified?
- How often is the activity which creates the hazard performed?
- How often is the hazard present?

#### 2. Use the following point values.

- Three Points—high probability of occurrence.
- Two Points—moderate probability of occurrence.
- One Point—low probability of occurrence.

D. Exposure. Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

- Three Points—many persons are affected frequently.
- Two Points—a few persons are affected frequently.
- One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §1721.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 17 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §1721.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.



4. Step Four. Rearrange the hazards that were identified in descending order with the one having the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Point

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards, and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:56 (January 2007).

## Subchapter D. Hazard Control Measures

### §1731. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by PPE. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are

successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:57 (January 2007).

## Chapter 19. Hazard Communication Worksheet

### Subchapter A. General Provisions

#### §1901. Definitions

*Article*—a manufactured item other than a fluid or particle that:

1. is formed to a shape or design during manufacture;
2. has end use function(s) dependent in whole or in part on its shape or design during end use; and
3. under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

*Hazardous Chemical*—any chemical that is a physical hazard or a health hazard.

*Health Hazard*—a chemical for which statistically significant evidence exists that acute or chronic health effects may occur in exposed employees. This evidence must

be based on at least one study conducted in accordance with established scientific principles.

**Physical Hazard**—a chemical for which scientifically valid evidence exists that it is:

1. a combustible liquid;
2. a compressed gas;
3. explosive;
4. flammable;
5. an organic peroxide;
6. an oxidizer;
7. pyrophoric (self igniting);
8. unstable (reactive) or water-reactive.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:57 (January 2007).

### §1903. Worksheet Instructions

A. Use the following worksheet as a guide to conduct a survey of the instructional facility. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

1. Additional guidance material may be found in Appendix K, Material Safety Data Sheets Guidelines, in the Safety and Health Manual on the Louisiana Department of Education website (<http://www.doe.state.la.us/lde/index.html>).

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:58 (January 2007).

## Subchapter B. Hazard Identification

### §1911. Elements of a Hazard Communication Program

#### A. Hazard Communication Program

	Circle the Appropriate Answer
1. Has a written hazard communication program been developed, implemented, and maintained at your worksite?	Y N N/A
2. Has a list of known hazardous chemicals at your facility been prepared?	Y N N/A
3. Have methods been developed to inform personnel and students of the hazards of non-routine tasks? <i>Note: Such tasks may include emergency response or equipment.</i>	Y N N/A

	Circle the Appropriate Answer
4. Are methods developed for communicating hazards to outside contractors or vendors who may be exposed to hazardous chemicals at your facility?	Y N N/A

#### B. Labels

	Circle the Appropriate Answer
1. Are all containers of hazardous chemicals in the workplace labeled, tagged, or marked with the identity of the hazardous chemical(s)?	Y N N/A
2. Are all containers of hazardous chemicals in the workplace labeled, tagged, or marked with the appropriate warnings?	Y N N/A
3. Are all containers of hazardous chemicals in the facility labeled, tagged, or marked with the name and address of the chemical manufacturer, importer, or other responsible party?	Y N N/A
4. If a container is received without a hazard warning label, is a good faith effort made to obtain the missing information from the manufacturer or supplier? <i>Note: Manufacturers are required to affix labels to all containers of hazardous chemicals when they are shipped. The following hazardous chemicals are exempt from this labeling requirement, although subject to other labeling requirements:</i> <ol style="list-style-type: none"> <li>i. pesticides;</li> <li>ii. foods;</li> <li>iii. food additives;</li> <li>iv. color additives;</li> <li>v. drugs;</li> <li>vi. cosmetics</li> <li>vii. medical devices;</li> <li>viii. alcoholic beverages;</li> <li>ix. consumer products;</li> <li>x. hazardous waste;</li> <li>xi. tobacco products; and</li> <li>xii. wood products.</li> </ol>	Y N N/A
5. Is removal or defacing of labels on incoming containers of hazardous chemicals prohibited?	Y N N/A
6. Are labels or other forms of warning legible in English and prominently displayed?	Y N N/A

#### C. Material Safety Data Sheets

	Circle the Appropriate Answer
1. Are material safety data sheets on hand for each hazardous chemical used and identified on the hazardous chemicals list?	Y N N/A
2. If a hazardous chemical has no material safety data sheet, are attempts made to obtain one from the chemical manufacturer or imported as soon as possible?	Y N N/A
3. Are material safety data sheets for the hazardous chemical kept in the facility and made readily accessible to personnel and students?	Y N N/A

**D. Information and Training**

	<b>Circle the Appropriate Answer</b>
1. Is information and training on hazardous chemicals in the worksite provided on initial assignment and whenever new physical hazards or health hazards are introduced into a facility area?	Y N N/A
2. Does the information provided include the operations performed at the worksite where hazardous chemicals are present?	Y N N/A
3. Does the information provided include the location and availability of the written hazard communication program, including the list of hazardous chemicals and material safety data sheets?	Y N N/A
4. Does the training provided include information about the methods and observations that may be used to detect the presence or release of a hazardous chemical in a work area such as: a. monitoring conducted by the employer; b. continuous monitoring devices; c. visual appearance or odor of hazardous chemicals when being released; d. etc.?	Y N N/A
5. Does the training provided include information about the physical hazards and health hazards of the chemicals in the work area?	Y N N/A
6. Does the training provided include information about the measures employees can take to protect themselves from these hazards, including procedures the school has implemented to protect employees from exposures to hazardous chemicals: a. appropriate work practices; b. emergency procedures; and c. personal protective equipment?	Y N N/A
7. Does the training provided include information about the details of the hazard communication program developed by the school, including: a. explanations of the labeling system; b. material safety data sheets; and c. how employees can obtain and use the appropriate hazard information?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:58 (January 2007).

## **Subchapter C. Hazard Evaluation and Prioritization**

### **§1921. Relative Risk Factors**

#### **A. Introduction**

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 19, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- a. severity

- b. frequency/probability; and
- c. exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

**NOTE:** The greater the risk, the higher the point value.

**B. Severity.** Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 19, Hazard Identification, result in an actual incident. The following point values are suggested.

#### **1. Four Points—Catastrophic:**

- a. loss of life;
- b. permanent disability;
- c. loss of entire facility;
- d. permanent.

#### **2. Three Points—Critical:**

- a. severe injury or illness with lost time;
- b. major property damage;
- c. no permanent disability or fatality;
- d. interruption of activities for extended period of time.

#### **3. Two Points—Marginal:**

- a. minor injury or illness;
- b. minor property damage;
- c. interruption of activities for more than one day.

#### **4. One Point—Negligible:**

- a. probably no injury or illness;
- b. no loss other than interruption of activities for a short period of time.

#### **C. Frequency/Probability (Likelihood of Occurrence)**

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- a. How likely is it that things will go wrong as a result of the hazard that has been identified?
- b. How often is the activity which creates the hazard performed?
- c. How often is the hazard present?

#### **2. Use the following point values.**

- a. Three Points—high probability of occurrence.
- b. Two Points—moderate probability of occurrence.
- c. One Point—low probability of occurrence.

**D. Exposure.** Consider the number of persons (students and faculty) who could be potentially affected by a worst

case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

1. Three Points—many persons are affected frequently.
2. Two Points—a few persons are affected frequently.
3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter 19 in the first column of the worksheet.

1. Step One. List each of the hazardous conditions that were identified in this Chapter 19, Subchapter B of the worksheet in the first column.

2. Step Two. Based on the criteria given above in §1921.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:59 (January 2007).

## Subchapter D. Hazard Control Measures

### §1931. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types, and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:60 (January 2007).

## Chapter 21. Fire Prevention and Protection Worksheet

### Subchapter A. General Provisions

#### §2101. Worksheet Instructions

A. Use the following worksheet as a guide to conduct a survey to determine the level of fire prevention and protection readiness for the instructional facility. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:60 (January 2007).

### Subchapter B. Hazard Identification

#### §2111. Facilities

##### A. Buildings and Functions

	Circle the Appropriate Answer
1. Are classroom and laboratory facilities separated?	Y N N/A
2. Are classes being conducted in more than one part of the building at a time?	Y N N/A
3. Do classrooms, laboratories, offices, lavatories, and other facilities empty into a common interior hallway?	Y N N/A
4. Does the building have more than one level or floor?	Y N N/A
5. If the building is multi-level, is there more than one stairway leading to egress (exit) from the building?	Y N N/A
6. Are means of egress (exit) from the building clearly marked?	Y N N/A
7. In the event of loss of power to the building, is there battery-powered emergency lighting that will be turned on automatically?	Y N N/A
8. Are exit facilities inspected daily to make sure that all stairways, doors, and other exists are in proper working condition?	Y N N/A
9. Are all exit paths free and unobstructed? <i>Note: Exit doors must not be locked, barred, or blocked in such a way as to prevent exit from the building.</i>	Y N N/A
10. Are wedges or devices holding exit doors open prohibited?	Y N N/A
11. Are all fire escapes, stairs, passageways, doors, and windows free of obstructions that would interfere with the operation of the fire department?	Y N N/A
12. Are all fire doors tight fitting and in good operational condition?	Y N N/A
13. Are all classroom doors self closing?	Y N N/A
14. Are openings in the walls, floors, or ceilings that would contribute to the spread of fire from one room to another repaired?	Y N N/A

	Circle the Appropriate Answer
15. Is the vertical clearance between sprinklers and material below (such as head deflectors) at least 18 inches?	Y N N/A
16. Are accumulations of flammable or combustible waste materials and residues removed so that they will not contribute to a fire? <i>Note: Examples of violations include open boxes of papers stored under the stairs and stored empty cardboard boxes.</i>	Y N N/A
17. Is adequate clearance maintained between stored materials and light fixtures to prevent possible ignition?	Y N N/A
18. Is the clearance between stored materials and unit heaters, radiant space heaters, furnace ducts, and flues not less than 3 feet in all directions or in accordance with the clearances shown on the approval agency label?	Y N N/A
19. Are furnishings or decorations of an explosive or highly flammable character prohibited?	Y N N/A
20. Are decorative materials such as curtains, draperies, streamers, and fabrics flame resistant?	Y N N/A
21. Do teaching materials and children's artwork cover 20 percent or less of the wall area?	Y N N/A

##### B. Occupants

	Circle the Appropriate Answer
1. Are any of the occupants handicapped in anyway?	Y N N/A
2. Are there ever any individuals in the facility who are not part of the regular occupants of the buildings?	Y N N/A
3. Are there ever times when there are only one or two occupants in the building/	Y N N/A

##### C. Applicable Codes

	Circle the Appropriate Answer
1. Have the NFPA Building, Life, Safety, and Electrical Codes been identified and consulted for applicability to this building and its purpose?	Y N N/A
2. Have municipality and school board safety codes been identified and consulted for applicability to this building and its purpose?	Y N N/A
3. Are all applicable codes being followed regarding the occupation use of this building?	Y N N/A
4. Are all applicable codes being followed regarding the installation, use and maintenance of equipment within the building?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:60 (January 2007).

**§2113. Materials and Equipment****A. Flammable and Combustible Materials**

	<b>Circle the Appropriate Answer</b>
1. Are flammable materials of any kind stored or used in the Area? a. Flammable materials are usually in either the liquid or gas form and include, but are not limited to: i. fuels; ii. welding gases; iii. paints; iv. solvents; v. thinners; vi. etc. b. These fuels are usually considered quite volatile, i.e., they are very watery and they evaporate rapidly.	Y N N/A
2. Are combustible materials of any kind stored or used in the area? a. Combustible materials are usually in the solid form and include, but are not limited to: i. wood; ii. plastics; iii. paper; iv. etc. b. Combustible materials may also include heavier liquid fuels such as lubricating oils and heating oils.	Y N N/A

**B. Potential Ignition Sources**

	<b>Circle the Appropriate Answer</b>
1. Is all electrical equipment, such as switches, portable power tools, motors, and other devices which may serve as a source of ignition, either prohibited in areas where flammable materials are stores or used, or allowed only when special procedures such as a "Hot Work Permit" are in force?	Y N N/A
2. Is internal-combustion-engine powered equipment located so that their exhausts are well away from combustible materials?	Y N N/A
3. When internal combustion engine exhausts are piped outside the building, is a clearance of at least 6 inches maintained between such piping and combustible materials?	Y N N/A
4. Are temporary heating devices used and stored away from flammable and combustible materials?	Y N N/A

**C. Fire Protection Equipment**

	<b>Circle the Appropriate Answer</b>
1. Are telephone numbers and other means for summoning the fire department clearly posted and available for all to use?	Y N N/A
2. Is access to firefighting equipment maintained at all times?	Y N N/A
3. Is firefighting equipment conspicuously located and visible, and is each location marked and identified?	Y N N/A

	<b>Circle the Appropriate Answer</b>
4. Is firefighting equipment periodically inspected and maintained and operating?	Y N N/A
5. Is a fire extinguisher, rated not less than 2A provided for each 3,000 square feet of protected building area?	Y N N/A
6. Is the travel distance to each fire extinguisher 100 feet or less?	Y N N/A
7. Are one or more fire extinguishers, rated not less than 2A provided on each floor?	Y N N/A
8. In multistory facilities, is at least one fire extinguisher located adjacent to the stairway?	Y N N/A
9. If more than 5 gallons of flammable or combustible liquid, or five pounds or more of flammable gas are present, is a fire extinguisher rated not less than 10B provided within 50 feet?	Y N N/A
10. Are portable fire extinguishers selected according to the classes of anticipated fires and the size and degree of hazards?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:61 (January 2007).

**§2115. Work Methods****A. Material Handling Use**

	<b>Circle the Appropriate Answer</b>
1. Are volatile, flammable materials used in such a way that gases and vapors from such materials are not allowed to escape the storage container, or are gases or vapors vented to a safe area?	Y N N/A
2. When not in use, are flammable and combustible materials kept in containers that are specifically designed for holding and storing such materials?	Y N N/A

**B. Material Storage—Outdoor**

	<b>Circle the Appropriate Answer</b>
1. Is stability maintained when combustible materials are piled?	Y N N/A
2. Are weeds and grass kept down and a regular procedure provided for periodic cleanup of outside storage areas?	Y N N/A

**C. Material Storage—Indoor**

	<b>Circle the Appropriate Answer</b>
1. Are indoor materials stored so that they do not obstruct or adversely affect the means of exit?	Y N N/A
2. Are indoor materials stored, handled, and piled to minimize the spread of fire, and permit convenient access for firefighting?	Y N N/A

	Circle the Appropriate Answer
3. Where sprinkler systems are installed, are indoor materials stored so that a clearance of at least 36 inches is maintained between the top level of stored materials and the sprinkler deflectors?	Y N N/A
4. Is proper clearance maintained around lights and heating units to prevent ignition of combustible materials?	Y N N/A
5. Is a clearance of at least 24 inches maintained around the path of travel of fire doors, unless a barricade is provided?	Y N N/A
6. Are materials stored more than 36 inches away from a fire door opening?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:62 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §2127. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 21, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- a. severity;
- b. frequency/probability; and
- c. exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

NOTE: The greater the risk, the higher the point value.

B. Severity. Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 21, Hazard Identification, result in an actual incident. The following point values are suggested.

1. Four Points—Catastrophic:
  - a. loss of life;
  - b. permanent disability;
  - c. loss of entire facility;
  - d. permanent.
2. Three Points—Critical:
  - a. severe injury or illness with lost time;
  - b. major property damage;
  - c. no permanent disability or fatality;

d. interruption of activities for extended period of time.

#### 3. Two Points—Marginal:

- a. minor injury or illness;
- b. minor property damage;
- c. interruption of activities for more than one day.

#### 4. One Point—Negligible:

- a. probably no injury or illness;
- b. no loss other than interruption of activities for a short period of time.

#### C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- a. How likely is it that things will go wrong as a result of the hazard that has been identified?
- b. How often is the activity which creates the hazard performed?
- c. How often is the hazard present?

#### 2. Use the following point values.

- a. Three Points—high probability of occurrence.
- b. Two Points—moderate probability of occurrence.
- c. One Point—low probability of occurrence.

D. Exposure. Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

1. Three Points—many persons are affected frequently.
2. Two Points—a few persons are affected frequently.
3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §2127.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 21 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §2127.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the

highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:62 (January 2007).

## Subchapter D. Hazard Control Measures

### §2135. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the

presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:63 (January 2007).

## Chapter 23. Hearing Conservation and Noise Protection Worksheet

### Subchapter A. General Provisions

#### §2301. Worksheet Instructions

A. Use this worksheet as a guide to conduct a survey of the instructional facilities. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

NOTE: The Occupational Safety and Health Administration (OSHA) and other regulatory agencies specify that persons exposed to noise levels of 85 dBA over an eight-hour period must wear hearing protection, and be provided with and trained in the use of hearing protection. In order to provide a margin of safety and simplify the evaluation process, any equipment or operation found to expose persons to a noise level of 85 dBA or above over any time period should be considered a hazard, and hearing protection should be required.



1. Additional guidance material may be found in Appendix H, Hearing Conservation and Noise Control in the Safety and Health Manual on the Louisiana Department of Education website (<http://www.doe.state.la.us/lde/index.html>).

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:63 (January 2007).

## Subchapter B. Hazard Identification

### §2311. Facilities and Equipment

#### A. Evaluation

	Circle the Appropriate Answer
1. Have all operations or equipment believed to be excessively noisy (85 dBA or above) been measured to determine their noise levels?	Y N N/A
2. Are noise measurements repeated when a change in operations or equipment may increase noise exposure?	Y N N/A

#### B. Training

	Circle the Appropriate Answer
1. Does the school administer a continuing, effective hearing conservation program?	Y N N/A
2. Do all students or employees exposed to 85 dBA or above receive hearing conservation training at least annually?	Y N N/A
3. Are training materials and literature on hearing conservation available to employees or students?	Y N N/A

#### C. Noise Control and Hearing Protection

	Circle the Appropriate Answer
1. Have feasible engineering and/or administrative controls been used to reduce operation or equipment noise levels determined to be excessive (85 dBA or above)?	Y N N/A
2. Are hearing protectors evaluated to verify that they effectively reduce noise to levels below 85 dBA?	Y N N/A
3. Are hearing protectors available to all persons exposed to noise levels at or above 85 dBA?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:64 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §2321. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 23, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- severity;
- frequency/probability; and
- exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

**NOTE:** The greater the risk, the higher the point value.

B. Severity. Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 23, Hazard Identification, result in an actual incident. The following point values are suggested.

#### 1. Four Points—Catastrophic:

- loss of life;
- permanent disability;
- loss of entire facility;
- permanent.

#### 2. Three Points—Critical:

- severe injury or illness with lost time;
- major property damage;
- no permanent disability or fatality;
- interruption of activities for extended period of time.

#### 3. Two Points—Marginal:

- minor injury or illness;
- minor property damage;
- interruption of activities for more than one day.

#### 4. One Point—Negligible:

- probably no injury or illness;
- no loss other than interruption of activities for a short period of time.

#### C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- How likely is it that things will go wrong as a result of the hazard that has been identified?
- How often is the activity which creates the hazard performed?
- How often is the hazard present?

2. Use the following point values.
  - a. Three Points—high probability of occurrence.
  - b. Two Points—moderate probability of occurrence.
  - c. One Point—low probability of occurrence.

D. Exposure. Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

1. Three Points—many persons are affected frequently.
2. Two Points—a few persons are affected frequently.
3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §2321.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 23 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §2321.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even

though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:64 (January 2007).

## Subchapter D. Hazard Control Measures

### §2331. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types, and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the

exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:65 (January 2007).

## Chapter 25. Mechanical Hazards Worksheet

### Subchapter A. General Provisions

#### §2501. Worksheet Instructions

A. Use this worksheet as a guide to conduct a survey of the instructional facility. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:65 (January 2007).

### Subchapter B. Hazard Identification

#### §2511. General Requirements

	Circle the Appropriate Answer
1. Are all machines guarded to protect the operator and other people in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips, and sparks?	Y N N/A
2. Is the point of operation guarded in conformity with appropriate standards, if operation of machinery exposes individuals to injury? <i>Note: In the absence of applicable specific standards, guarding shall be so designed and constructed as to prevent the operator from having any part of his/her body in the danger zone during the operating cycle. Examples of cited violations include:</i> i. paper cutters had no finger guards; ii. a radial arm saw's blade protruded beyond the edge of the cutting table during its operating cycle; iii. bench and pedestal drills had no bit guards; and iv. lathes had no shields.	Y N N/A
3. Are guards attached to the machine when possible, and if that is not possible, attached elsewhere?	Y N N/A
4. If hand tools are used for placing or removing material, are they designed to be easily handled without a need to place hands in a danger zone? <i>Note: Such tools are not a substitute for guarding. They can only be used as supplemental protection.</i>	Y N N/A

	Circle the Appropriate Answer
5. Are revolving drums, barrels, and containers guarded by an enclosure that is interlocked so that containers cannot revolve unless the enclosure is in place?	Y N N/A
6. Are all fans less than 7 feet from the floor equipped with guards that have openings no larger than 1/2 inch? <i>Note: Examples of cited violations include:</i> i. exhaust fan blades and floor fans were not provided with protective guards; ii. a portable table fan had a blade guard whose openings were approximately 1 inch in width; and iii. a guard was broken creating a hole approximately 4" x 2".	Y N N/A
7. Is all machinery designed for a fixed location securely anchored to prevent "walking" or "moving?"	Y N N/A
8. Are all machines constructed, installed and maintained as to be free from excessive vibration or play?	Y N N/A
9. Are all machines and equipment requiring the presence of an operator not left unattended while in operation or still in motion?	Y N N/A
10. Are all machines provided with a power cutoff switch that can be reached from the operating position?	Y N N/A
11. Is all fixed motorized machinery equipped with a magnetic-type switch designed to prevent automatic restarting of machinery when power is restored after a power failure or electrical cutoff?	Y N N/A
12. Are all machine operating controls easily reachable from the standard operating position and away from any hazardous point of operation?	Y N N/A
13. Are all electrically powered machines provided with a positive means for rendering the motor starting controls inoperative while repairs or tool changes are being made?	Y N N/A
14. Is your shop or lab equipped with two or more push-type emergency cut-out switches, provided at appropriate locations for each (maximum) 1,000 square feet of shop floor areas, for de-energizing the electrical supply to non-portable machinery? <i>Note: The switch must have a clear unobstructed access of at least 36 inches. In addition, the reset of the switch must be key operated.</i>	Y N N/A
15. Are all power tools and machines which generate dust connected to a dust collection system?	Y N N/A
16. If required in your state, are dust collection systems permitted by the appropriate state agency?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:65 (January 2007).

#### §2513. Control of Hazardous Energy Sources (Lockout/Tagout)

##### A. General Energy Control

## EDUCATION

	Circle the Appropriate Answer
1. Does the program require that all hazardous energy sources be isolated, locked or tagged, and otherwise disabled before anyone performs any activity where the unexpected energization, startup, or release of stored energy could occur and cause injury?	Y N N/A
2. Have procedures been developed, documented, and implemented for the control of hazardous energy when working with such equipment?	Y N N/A
3. Do the procedures clearly outline the scope, purpose, responsibility, authorization, rules, and techniques to be applied to the control of hazardous energy, and measures to enforce compliance?	Y N N/A
4. Do procedures exist for shutting down, isolating, blocking, and securing (locks and tags) energy?	Y N N/A
5. Do procedures exist and is someone assigned responsibility for removing and transferring locks and tags?	Y N N/A

### B. Protective Materials and Hardware

	Circle the Appropriate Answer
1. Are locks, tags, chains, adapter pins, or other hardware available for securing or blocking energy sources?	Y N N/A
2. Are these devices standardized in either color, shape, size, or format?	Y N N/A
3. Do these devices have a provision for identifying the person applying the device?	Y N N/A
4. Do tagout devices or danger tags warn against hazardous conditions if the equipment is re-energized? <i>Note: Acceptable wording includes Do Not Open, Do Not Start, Do Not Close and Do Not Energize</i>	Y N N/A

### C. Inspection

	Circle the Appropriate Answer
1. Are inspections conducted at least annually by an authorized person (other than the ones using the energy control procedures) to ensure control procedures are being implemented?	Y N N/A
2. Is each inspection certified by identifying: a. the machine or equipment on which the energy control procedure was being used; b. the date of the inspection; and c. the person performing the inspection?	Y N N/A

### D. Training and Communication

	Circle the Appropriate Answer
1. Is training provided and documented to ensure that: a. the purpose and function of the energy control procedures are understood; and b. the knowledge and skills required for the safe application and removal of energy controls are acquired?	Y N N/A
2. Is this training repeated periodically when changes or deviations occur in the energy control procedure?	Y N N/A

### E. Energy-Isolating Devices

	Circle the Appropriate Answer
1. Are all energy-isolated devices operated only by authorized persons or under the direct supervision of an authorized person?	Y N N/A

### F. Notification of Employees

	Circle the Appropriate Answer
1. Are all employees notified of the application and removal of lockout and tagout controls whenever such controls directly affect their work activities?	Y N N/A

## G. Application of Control

	Circle the Appropriate Answer
1. Does the application of energy control follow the sequence listed below? Step 1. Machine or equipment shutdown by authorized personnel. Step 2. Machine or Equipment Isolation. All energy-isolated devices that are needed shall be located and operated in a manner that isolates the machine or equipment from the energy source(s). Step 3. Lockout and Tagout Application i. Lockout devices shall be affixed in a manner that will hold the energy-isolating device in a safe or off position. ii. Tagout devices shall be affixed in a manner that clearly indicates that the operation or movement of energy isolating devices from the safe or off position is prohibited. iii. If a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely permissible to the device, in a position that will be immediately obvious to anyone operating the device. Step 4. Stored Energy. Following the application of lockout and tagout devices, all hazardous, stored, or residual energy shall be relieved, disconnected, restrained, or otherwise rendered safe. Step 5. Verification of Isolation. Before starting work on the isolated equipment or process, an authorized person must verify that isolation and de-energization of the machine or equipment has been accomplished.	Y N N/A
2. Has the work area been inspected before the removal of lockout and tagout devices?	Y N N/A
3. Has the lockout and tagout device been removed by the person who put it on? <i>Note: This rule has some limited exceptions.</i>	Y N N/A
4. Are outside servicing personnel informed of the lockout and tagout procedures before equipment is serviced?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:66 (January 2007).

## §2515. Mechanical Power-Transmission Devices

## A. Care of Equipment

	Circle the Appropriate Answer
1. Is all power-transmission equipment inspected every 60 days or less and kept in good working condition at all times?	Y N N/A

	Circle the Appropriate Answer
2. Are hangers inspected to make certain that all supporting bolts and screws are tight and that supports of hanger boxes are adjusted properly?	Y N N/A
3. Is machinery oiled wherever possible when not in motion?	Y N N/A
4. Do regular oilers wear tight fitting clothing?	Y N N/A

## B. Prime-Mover Guards

	Circle the Appropriate Answer
1. When exposed to contact, are flywheels guarded by an enclosure, guard rail, or toeboard?	Y N N/A
2. Are crank and connecting rods guarded when exposed to contact?	Y N N/A
3. Are tail rods or extension piston rods guarded?	Y N N/A

## C. Shafting

	Circle the Appropriate Answer
1. Is each continuous line of shafting secured against excessive end movement?	Y N N/A
2. Are inclined and vertical shafts (particularly inclined idler shafts) securely held in position against end-wise thrust?	Y N N/A
3. For horizontal shafting 7 feet or less above the floor or working platform, are all exposed parts protected by: a. a stationary casing completely enclosing the shafting; or b. a trough enclosing the side and top, or sides and bottom of the shafting (as the location requires)?	Y N N/A
4. Is shafting under bench machinery enclosed by: a. stationary casing; or b. a trough at sides and top, or sides and bottom (as the location requires)? <i>Note: The sides of the trough shall come within at least 6 inches of the underside of the table, or within 6 inches of the floor if shafting is near the floor. In every case, the sides of the trough shall extend at least 2 inches beyond the shafting or protuberance.</i>	Y N N/A
5. Is vertical or inclined shafting that is 7 feet or less from the floor or working platform (except maintenance runways) enclosed with a stationary casing?	Y N N/A
6. Do projecting shaft ends have a smooth edge and end?	Y N N/A
7. Are shaft ends that project more than one-half of the diameter of the shaft guarded by non-rotating caps or safety sleeves?	Y N N/A
8. Are unused keyways filled up or covered?	Y N N/A
9. Is shafting kept in alignment and free from rust and excess oil or grease?	Y N N/A

## D. Pulleys

	Circle the Appropriate Answer
1. Are pulleys 7 feet or less from the floor guarded?	Y N N/A
2. Are pulleys with cracks or pieces broken out of the rims taken out of service?	Y N N/A
3. Are pulleys kept in proper alignment to prevent belts from running off?	Y N N/A

## E. Belt, Rope, and Chain Drives

	Circle the Appropriate Answer
1. Are horizontal belts 7 feet or less from the floor level guarded?	Y N N/A
2. Are belts, lacings, and fasteners inspected and maintained in good repair?	Y N N/A

## F. Gears, Sprockets, and Chains

	Circle the Appropriate Answer
1. Are all gears fully guarded?	Y N N/A
2. Are all sprocket wheels and chains that are less than 7 feet above the floor or platform fully guarded?	Y N N/A
3. Are openings with hinged or sliding self-closing covers provided when frequent oiling must be done on gears, sprockets, and chains?	Y N N/A

## G. Keys, Set-Screws, and Other Projections

	Circle the Appropriate Answer
1. Are all projecting keys, set-screws, and other projections in revolving parts guarded by metal covers or made flush?	Y N N/A

## H. Collars and Couplings

	Circle the Appropriate Answer
1. Are shaft couplings constructed so they do not present hazards from bolts, nuts, set-screws, or revolving surfaces? <i>Note: Bolts, nuts, and set-screws are permitted if covered with safety sleeves.</i>	Y N N/A

## I. Bearings and Facilities for Oiling

	Circle the Appropriate Answer
1. Are all drip cups and pans securely fastened?	Y N N/A
2. Are bearings kept in alignment and properly adjusted?	Y N N/A

## J. Guards

	Circle the Appropriate Answer
1. Are all metal guards free from burrs and sharp edges?	Y N N/A
2. Are all metal guards securely fastened to the floor or to frame of the machine?	Y N N/A
3. Are all guards rigidly braced every 3 feet or fractional part of their height to a fixed part of machinery or building structure?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:67 (January 2007).

**§2517. Abrasive Wheel Machinery**

## A. General Requirements

	Circle the Appropriate Answer
1. Do grinding wheels fit freely on the spindle?	Y N N/A
2. Is forcing the grinding wheel on the spindle prohibited?	Y N N/A
3. Are all wheels closely inspected and sounded by the user (ring test) to make sure they have not been damaged before being mounted? <i>Note: Before mounting the wheel, make sure the spindle speed of the machine does not exceed the maximum operating speed marked on the wheel.</i>	Y N N/A
4. Is the spindle nut-tightened only enough to hold the wheel in place?	Y N N/A
5. Are all grinding wheel operators required to use eye protection?	Y N N/A
6. Are all contact surfaces of the wheel, blotters, and flanges flat and free of foreign material?	Y N N/A
7. When a bushing is used in the wheel hole, is it positioned so it does not exceed the width of the wheel nor make contact with the flange?	Y N N/A

## B. Floor and Bench-Grinding Machines

	Circle the Appropriate Answer
1. Are all floor- and bench-mounted abrasive wheels equipped with safety guards?	Y N N/A
2. Does the safety guard cover the spindle end, nut, and flange projections?	Y N N/A
3. Is the maximum angular exposure of the grinding wheel and side 90° or less? Exception. When work requires contact with the wheel below the horizontal plane of the spindle, the angular exposure shall not exceed 125°. In either case, the exposure shall begin at not more than 65° above the horizontal place of the spindle.	Y N N/A

	Circle the Appropriate Answer
4. Are work rests provided which are rigidly supported and readily adjustable?	Y N N/A
5. Are work rests kept adjusted closely to the wheel with a maximum opening of 1/8 inch to prevent the work from being jammed between the wheel and the rest?	Y N N/A

### C. Portable and Other Abrasive Wheels

	Circle the Appropriate Answer
1. Do all machines with abrasive wheels greater than 2 inches in diameter have safety guards? <i>Note: Some abrasive wheels may be equipped with flanges.</i>	Y N N/A
2. Is the maximum exposure angle on all grinding wheels 180° or less?	Y N N/A
3. When in use, is the guard on right angle head or vertical portable grinders located between the operator and the wheel?	Y N N/A
4. Is the guard on right angle head or vertical portable grinders adjusted so that pieces of a broken wheel will be deflected away from the operator?	Y N N/A
5. Is the top half of the wheel on other grinders always enclosed?	Y N N/A

### D. General Requirements for Guards

	Circle the Appropriate Answer
1. Are the guard and its fastenings strong enough to retain fragments of the wheel in case of breakage?	Y N N/A
2. Are guards mounted to maintain proper alignment with the wheel?	Y N N/A
3. Are tongue guards at the top of the wheel bench, floor stand, and cylindrical grinders adjusted to the decreasing diameter of the wheel so that the gap is never more than one-fourth of an inch?	Y N N/A

### E. Ping Test

1. Wheels should be tapped gently with a light nonmetallic implement, such as the handle of a screwdriver for light wheels, or a wooden mallet for heavier wheels. Tap wheels about 45° each side of the vertical centerline and about 1 or 2 inches from the edge of the wheel. Then rotate the wheel 45° and repeat the test. A sound and undamaged wheel will give a clear metallic tone. If cracked, there will be a dead sound and not a clear "ring."

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:69 (January 2007).

## §2519. Woodworking Machinery

### A. General Machine Construction

	Circle the Appropriate Answer
1. Is each machine constructed and installed so it is free from sensible vibration when the largest tool is mounted and run at full speed?	Y N N/A
2. Are arbors and mandrels constructed to have firm and secure bearing and be free from play?	Y N N/A
3. Are saw frames on tables constructed with lugs cast on the frame or with equivalent means to limit the size of the saw blade that can be mounted? <i>Note: This is done to avoid overspeed caused by mounting a saw larger than intended.</i>	Y N N/A
4. Are circular saw fences constructed so they can be firmly secured to the table without changing their alignment with the saw?	Y N N/A
5. Are circular saw gauges constructed so they slide in grooves or tracts that are securely machined, to ensure exact alignment with the saw for all positions on the guide?	Y N N/A
6. Are hinged table saws constructed so that the table can be firmly secured in any position and in true alignment with the saw?	Y N N/A
7. Are all belts, pulleys, gears, shafts, and moving parts guarded?	Y N N/A
8. Is each woodworking machine provided with a disconnect switch that can be locked in the off position? <i>Note: The construction standard 1926-304 permits a disconnect switch that can be tagged in the off position.</i>	Y N N/A
9. Are the frames of all exposed non-current-carrying metal parts grounded?	Y N N/A
10. If the possibility exists of contacting part of a circular saw either beneath or behind the table, is that part covered with either an exhaust hood or guard?	Y N N/A
11. Are revolving double arbor saws fully guarded?	Y N N/A
12. Is the placement and mounting of saws, cutter heads, or tool collars on machine arbors accomplished when the tool has been accurately machined to size and shape to fit the arbor?	Y N N/A
13. Are combs (featherboards) or suitable higs provided at the shop or lab for use when a standard guard cannot be used, as in dadoing, grooving, joining, moulding, and rabbetting?	Y N N/A
14. Is the operating speed etched or otherwise permanently marked on all circular saws over 20 inches in diameter and operating at over 10,000 peripheral feet per minute?	Y N N/A
15. Do woodworking tools and machinery meet the American National Standards Institute (ANSI) codes for safety? <i>Note: A label on the equipment or manufacturer's literature might indicate that it meets ANSI's standards. If in doubt, the manufacturer of the equipment should be contacted.</i>	Y N N/A

## B. Machine Controls and Equipment

	Circle the Appropriate Answer
1. Are mechanical or electrical power controls provided on each machine to make it possible for the operator to cut off the power without leaving his or her operating position?	Y N N/A
2. On machines driven by belts and shaftings, is a locking type belt shifter or equivalent positive device used?	Y N N/A
3. Is each operating treadle protected against unexpected tripping?	Y N N/A
4. Are automatic feeding devices installed on machines whenever the nature of the work permits?	Y N N/A
5. Do feeder attachments have the feed rolls or other moving parts covered or guarded to protect the operator from hazardous points?	Y N N/A

## C. Inspection and Maintenance of Woodworking Machinery

	Circle the Appropriate Answer
1. Are dull, badly set, improperly filed, or improperly tensioned saws immediately removed from service before they cause the material to stick, jam, or kickback when it is fed to the saw at normal speed?	Y N N/A
2. Are all knives and cutting heads of woodworking machines kept sharp, properly adjusted, and firmly secured?	Y N N/A
3. Are all bearings well lubricated and kept free from lost motion?	Y N N/A
4. Are arbors of circular saws free from play?	Y N N/A
5. Is sharpening or tensioning of saw blades or cutters done only by people with demonstrated skill in this kind of work?	Y N N/A
6. Is cleanliness maintained around woodworking machinery so guards function properly and fire hazards are prevented in switch enclosures, bearings, and motors?	Y N N/A
7. Are all cracked saws immediately removed from service? <i>Note: Dispose of cracked saws in a manner that will prevent injury to anyone handling the discarded saws.</i>	Y N N/A
8. Is inserting wedges between the saw disk and the collar to form what is commonly known as a wobble saw prohibited?	Y N N/A
9. Are push sticks or blocks provided at workplaces in several sizes and types suitable for the work to be done?	Y N N/A

## D. Hand-Fed Ripsaws

	Circle the Appropriate Answer
1. Is each circular hand-fed ripsaw guarded by a hood that completely encloses the portions of the saw that are above the table and above the material being cut?	Y N N/A
2. Is the hood and mounting arranged so that the hood will automatically adjust itself to the thickness of the material and remain in contact with the material being cut? <i>Note: The hood should not offer considerable resistance to insertion of the material.</i>	Y N N/A
3. Is each hand-fed circular ripsaw furnished with a spreader to prevent material from squeezing the saw or being thrown back on the operator?	Y N N/A
4. Is each hand-fed circular ripsaw provided with non-kickback fingers or dogs located to oppose the thrust or tendency of the saw to pick up the material or throw it back toward the operator?	Y N N/A

## E. Hand-Fed Crosscut Table Saws

	Circle the Appropriate Answer
1. Is each hand-fed crosscut table saw guarded by a hood that completely encloses portions of the saw that are above the table and above the material being cut?	Y N N/A
2. Is the hood and mounting arranged so that the hood will automatically adjust itself to the thickness of and remain in contact with the material being cut? <i>Note: The hood should not offer considerable resistance to insertion of the material.</i>	Y N N/A

## F. Circular Resaws

	Circle the Appropriate Answer
1. Is each circular resaw guarded by a hood or shield of metal above the saw?	Y N N/A
2. Does each circular resaw have a spreader fastened securely behind the saw?	Y N N/A

## G. Self-Feed Circular Saws

	Circle the Appropriate Answer
1. Are feed rolls and saws protected by a hood or guard to prevent the hands of the operator from coming into contact with the in-running rolls at any point? <i>Note: The guard must be constructed of heavy material (preferable metal), and the bottom of the guard must come down to within 3/8 inch of the plane formed by the bottom or working surfaces of the feed rolls. This distance may be increased to 3/4 inch, provided the lead edge of the hood is extended to at least 5-1/2 inches in front of the nip point between the front roll and the work.</i>	Y N N/A



	Circle the Appropriate Answer
2. Is each self-feed circular rip saw provided with sectional non-kickback fingers for the full width of the feed rolls?	Y N N/A

### H. Swing and Sliding Cutoff Saws

	Circle the Appropriate Answer
1. Are swing and sliding cutoff saws provided with a hood that completely encloses the upper half of the saw, the arbor end, and the point of operation of all positions of the saw? <i>Note: The hood must be constructed to protect the operator from flying splinters and broken saw teeth. It must automatically cover the lower portion of the blade so that when the saw is returned to the back of the table, the hood will rise on top of the fence, and when the saw is moved forward, the hood will drop on top of and remain in contact with the table or material being cut.</i>	Y N N/A
2. Are swing and sliding cutoff saws equipped with an effective device to return the saw automatically to the back of the table when released at any point of its travel?	Y N N/A
3. Are swing and sliding cutoff saws equipped with limit chains or other equally effective devices to prevent the saw from swinging beyond the front or back edges of the table, or beyond a forward position where the gullets of the lowest saw teeth rise above the table top?	Y N N/A
4. Are inverted swing cutoff saws provided with a hood that covers the part of the saw that protrudes above the table or above the material being cut? <i>Note: The hood must automatically adjust itself to the thickness of the material and remain in contact with the material being cut.</i>	Y N N/A

### I. Radial Saws

	Circle the Appropriate Answer
1. Does the upper hood completely enclose the upper portion of the blade down to the point that will include the end of the saw arbor?	Y N N/A
2. Are the sides of the lower exposed portion of the blade guarded to the full diameter of the blade by a device that automatically adjusts itself to the thickness of the stock? Does this device remain in contact with the stock being cut to give maximum protection for the operation being performed?	Y N N/A

	Circle the Appropriate Answer
3. Are radial saws used for ripping provided with non-kickback fingers or dogs located on both sides of the saw to oppose the thrust or tendency of the saw to throw material back toward the operator?	Y N N/A
4. Is an adjustable stop provided that prevents the forward travel of the blade beyond the position necessary to complete the cut in repetitive operations?	Y N N/A
5. Is the installation designed so that the front end of the unit is slightly higher than the rear? (This design causes the cutting head to return gently to the starting position when released by the operator.) <i>Note: The cutting head should be fitted with an automatic return device.</i>	Y N N/A
6. Is the direction of saw rotation conspicuously marked on the hood?	Y N N/A
7. Is a permanent label (at least 1/2 inch by 3/4 inch) affixed to the rear of the guard at approximately the level of the arbor that reads as follows? <b>Danger: Do not rip or plow from this end.</b>	Y N N/A

### J. Bandsaws and Band Resaws

	Circle the Appropriate Answer
1. Are all portions of the band saws and band resaws enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table?	Y N N/A
2. Does a self-adjusting guard raise and lower the guide?	Y N N/A
3. Is each bandsaw machine provided with a tension control device to indicate the proper tension for the standard saws used on the machine?	Y N N/A
4. Are feed rolls of band resaws protected with a suitable guard to prevent the hands of the operator from coming in contact with the in-going rolls at any point?	Y N N/A

### K. Jointers

	Circle the Appropriate Answer
1. Is each hand-fed planer or jointer with a horizontal head equipped with a cylindrical cutting head? <i>Note: The knife projection of the cylindrical cutting head cannot exceed 1/8 inch beyond the cylindrical body of the head.</i>	Y N N/A
2. Is the opening in the table kept as small as possible? <i>Note: The clearance between the edge of the rear table and the cutting head shall be 1/8 inch or less. The table throat opening shall not be more than 1 1/2 inches when tables are set or aligned with each other for a zero cut.</i>	Y N N/A

	Circle the Appropriate Answer
3. Does each hand-fed jointer with a horizontal cutting head have an automatic guard that covers all sections of the head on the working side of the fence or gauge?	Y N N/A
4. Does each wood jointer with a vertical head have either an exhaust hood or other guard arranged so it completely encloses the revolving head, except for a slot wide enough for the material to be jointed?	Y N N/A
5. Is the knife blade of jointers installed and adjusted so that it does not protrude more than 1/8 inch beyond the cylindrical body of the head?	Y N N/A

## L. Tenoning Machines

	Circle the Appropriate Answer
1. Are feed chains and sprockets of double-end tenoning machines completely enclosed, except for the portion of chain used for conveying the stock?	Y N N/A
2. Are sprockets and chains at the rear ends of frames guarded at the sides by plates projecting beyond the edges of sprockets and lugs?	Y N N/A
3. If used on tenoning machines, are cutting heads and saws covered by metal guards? <i>Note: The guards must cover at least the unused part of the periphery of the cutting head. If the guard is made of sheet metal, the material used must be at least 1/16 inch thick, and if it is cast iron, it must be at least 3/16 inch thick.</i>	Y N N/A
4. If an exhaust system is used on a tenoning machine, is the guard part of the exhaust hood?	Y N N/A

## M. Boring and Mortising Machines

	Circle the Appropriate Answer
1. Are safety-bit chucks with projecting-set screws prohibited?	Y N N/A
2. Are boring bits provided with a guard that encloses all portions of the bit and chuck above the material being worked?	Y N N/A
3. Is the top of the cutting chain and driving mechanism enclosed?	Y N N/A
4. When a counterweight is used, is one of the following (or equivalent means) used to prevent its dropping? a. It is bolted to the bar by a bolt passing through both bar and counterweight. b. A bolt is put through the extreme end of the bar. c. Where the counterweight does not encircle the bar, a safety chain is attached to it. d. Other types of counterweights are suspended by chain or wire rope and shall travel in a pipe (or other suitable enclosure) if they might fall and cause injury.	Y N N/A

	Circle the Appropriate Answer
5. Are universal joints on spindles of boring machines completely enclosed to prevent contact by the operator?	Y N N/A
6. Is each operating treadle covered by an inverted U-shaped metal guard, fastened to the floor, and of adequate size to prevent tripping?	Y N N/A

## N. Wood Shapers and Similar Equipment

	Circle the Appropriate Answer
1. Is the cutting head of each wood shaper or hand-fed panel raiser (or other similar machine that is not automatically fed) enclosed with a cage or adjustable guard designed to keep the operator's hand away from the cutting edge?	Y N N/A

## O. Planing, Molding, Sticking, and Matching Machines

	Circle the Appropriate Answer
1. Is each planing, molding, sticking, and matching machine equipped with a metal guard covering the cutting heads?	Y N N/A
2. When an exhaust system is used, does the guard form part of the exhaust hood? <i>Note: If the guard is constructed of sheet metal, the material used shall be at least 1/16 inch thick, and if it is constructed of cast iron, it must be at least 3/16 inch thick.</i>	Y N N/A
3. Are feed rolls guarded by a hood or suitable guard to prevent the hands of the operator from contacting the in-running rolls?	Y N N/A
4. Do the surfaces and planers (provided with the sectional infeed rolls) give sufficient feeding contact pressure on the stock thickness?	Y N N/A

## P. Profile and Swing-Head Lathes and Wood Heel Turning Machines

	Circle the Appropriate Answer
1. Are the cutting heads of each profile and swing head lathe covered by a metal guard?	Y N N/A
2. Are cutting heads on wood-turning lathes covered as much as possible by hoods or shields?	Y N N/A
3. Do the following have hoods enclosing the cutter blades completely? (except at the contact points where the stock is being cut): a. shoe last and spoke lathes; b. doweling machines; c. wood heel-turning machines; and d. other automatic wood-turning lathes of the rotating knife type.	Y N N/A

	Circle the Appropriate Answer
4. Are lathes used for turning long pieces of wood stock held only between the two centers equipped with long, curved guards extending over the tops of the lathe? <i>Note: This is to prevent the work pieces from being thrown out of the machine if they become loose.</i>	Y N N/A
5. When an exhaust system is used, does the guard form part or all of the exhaust hood? <i>Note: If the guard is constructed of sheet metal, the material used must be at least 1/16 inch thick, and if it is constructed of cast iron, it must be at least 3/16 inch thick.</i>	Y N N/A

### Q. Sanding Machines

	Circle the Appropriate Answer
1. Are the feed rolls of self-feeding sanding machines protected with a semi-cylindrical guard to prevent contact with the in-running rolls?	Y N N/A
2. Does the bottom guard come to within 3/8 inch of a plane formed by the bottom or contact face of the feed roll where it touches the stock?	Y N N/A
3. Is each drum-sanding machine equipped with an exhaust hood or other guard if no exhaust hood is required?	Y N N/A
4. Does each disk-sanding machine enclose the revolving disk (except for the portion of the disk above the table if a table is used)?	Y N N/A
5. Is each belt-sanding machine provided with guards at each nip point where the sanding belt runs onto a pulley?	Y N N/A

### R. Veneer, Cutting and Wringers

	Circle the Appropriate Answer
1. Are veneer-slicer knives guarded at the front and ready to prevent contact with the knife edge?	Y N N/A
2. Do veneer clippers have automatic feeds, or are they provided with a guard that makes it impossible to place a finger or fingers under the knife while feeding or removing the stock?	Y N N/A
3. Are sockets on chain or slat-belt conveyors enclosed?	Y N N/A
4. Are hand and foot power guillotine veneer cutters provided with rods or plates or other satisfactory means, arranged on the feeding side so that the hands cannot reach the cutting edge of the knife while feeding or holding the stock in place?	Y N N/A

	Circle the Appropriate Answer
5. Is the operator required to make sure that the machine is clear and that other people are not in a hazardous position before starting or restarting the machine? (For example, when veneer slivers or rotary veneer-cutting machines have been shut down to insert logs or to make adjustments.)	Y N N/A

### S. Miscellaneous Woodworking Machinery

	Circle the Appropriate Answer
1. Are the feed rolls of roll-type glue spreaders guarded by a semi-cylindrical guard? <i>Note: The bottom of the guard shall come to within 3/8 inch of a plane formed by the bottom or contact face of the feed roll where it touches the stock.</i>	Y N N/A
2. Is each point of operation for combination or universal woodworking machines guarded as required for such a tool in a separate machine?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:69 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §2529. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 25, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- severity
- frequency/probability; and
- exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

**NOTE:** The greater the risk, the higher the point value.

**B. Severity.** Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 25, Hazard Identification, result in an actual incident. The following point values are suggested.

#### 1. Four Points—Catastrophic:

- loss of life;

- b. permanent disability;
  - c. loss of entire facility;
  - d. permanent.
2. Three Points—Critical:
- a. severe injury or illness with lost time;
  - b. major property damage;
  - c. no permanent disability or fatality;
  - d. interruption of activities for extended period of time.
3. Two Points—Marginal:
- a. minor injury or illness;
  - b. minor property damage;
  - c. interruption of activities for more than one day.
4. One Point—Negligible:
- a. probably no injury or illness;
  - b. no loss other than interruption of activities for a short period of time.

**C. Frequency/Probability (Likelihood of Occurrence)**

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- a. How likely is it that things will go wrong as a result of the hazard that has been identified?
- b. How often is the activity which creates the hazard performed?
- c. How often is the hazard present?

2. Use the following point values.

- a. Three Points—high probability of occurrence.
- b. Two Points—moderate probability of occurrence.
- c. One Point—low probability of occurrence.

**D. Exposure.** Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

- 1. Three Points—many persons are affected frequently.
- 2. Two Points—a few persons are affected frequently.
- 3. One Point—a few persons are affected up to a few times per day.

**E. Prioritization.** Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §2529.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 25 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §2529.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

**F.** The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:73 (January 2007).

## Subchapter D. Hazard Control Measures

### §2537. Control Categories

**A.** This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

**B.** Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types, and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by

personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:74 (January 2007).

## Chapter 27. Walking, Working, Surfaces/Stairs/Railings Worksheet

### Subchapter A. General Provisions

#### §2701. Worksheet Instructions

A. Use this worksheet as a guide to conduct a survey of the instructional facilities. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a

brief description of the deficient condition observed in the space provided at the end of the worksheet.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:75 (January 2007).

### Subchapter B. Hazard Identification

#### §2711. Facilities

##### A. Stairs

	Circle the Appropriate Answer
1. Are fixed stairs (rather than ladders or other means of access) provided where access to elevation is necessary on a daily or regular basis?	Y N N/A
2. Do fixed stairs have a minimum width of 22 inches?	Y N N/A
3. Are fixed stairs installed at angles to the horizontal between 30° and 50°?	Y N N/A
4. Are all treads reasonably slip-resistant with the front protruding edge of the tread of a non-slip finish?	Y N N/A
5. Do fixed stairs have a uniform rise height and tread width throughout the flight of stairs?	Y N N/A
6. Are stairway landing platforms no less than the width of the stairway and a minimum of 30 inches long measured in the direction of travel?	Y N N/A
7. Are standard railings provided on all open sides of exposed stairways and stair platforms?	Y N N/A
8. Is a vertical clearance above the stair tread to an overhead obstruction that is at least 7 feet measured from the edge of the tread?	Y N N/A

##### B. Classrooms, Lavatories, etc.

	Circle the Appropriate Answer
1. Are all changes in classroom use and alterations, repairs, construction, or installation of new equipment reviewed with the appropriate state and local agencies that have jurisdiction over school modifications?	Y N N/A
2. Is an electric solenoid key-operated gas shut-off switch installed on each gas supply line to your shop, lab or instructional area?	Y N N/A
3. Are classrooms kept clean and free from debris to the greatest extent practical given the types of activities being performed?	Y N N/A
4. Are waste materials that are prone to rotting placed in leak-proof receptacles with tight fitting covers and removed daily for disposal?	Y N N/A
5. Are classrooms maintained, as far as reasonably practicable, to prevent the entrance or harborage of rodents, insects, and other vermin?	Y N N/A
6. Is water available that is suitable for drinking, personal hygiene, food preparation or cleaning?	Y N N/A
7. Are all non-drinking water outlets clearly marked as such?	Y N N/A

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	Circle the Appropriate Answer
8. Are lavatories equipped with hot and cold running water, hand soap, and towels or driers?	Y N N/A
9. Where showers are required, are soap, hot and cold running water through a common discharge line, and individual towels provided?	Y N N/A
10. Is the consumption of food and beverages prohibited in or near toilet rooms or areas containing toxic materials?	Y N N/A
11. Is storage of food or beverages prohibited in toilet rooms or in an area exposed to a toxic material?	Y N N/A
12. Where employees are required to wear protective clothing, are change rooms provided with storage facilities for street clothes and separate storage facilities for the protective clothing?	Y N N/A
13. Is material stored so as not to create a hazard? <i>Note: Bags, containers, bundles, etc., stored in tiers must be stacked, blocked, interlocked, and limited in height so that they are stable and secured against sliding and collapse.</i>	Y N N/A
14. Are storage areas kept free from hazards that may cause tripping, fire, explosion, or pest harborage?	Y N N/A
15. Is sufficient safe clearance available through aisles, loading docks, turns, or doorways when mechanical handling equipment is used?	Y N N/A
16. Are head clearance warning signs provided where needed?	Y N N/A
17. Are all passageways, work areas, storerooms, and washing facilities kept orderly and sanitary? <i>Note: Examples of violations include floor areas strewn with lumber, tires, books, and boxes.</i>	Y N N/A
18. Are all floors kept clean and as far as possible dry?	Y N N/A
19. If floors are likely to get wet (such as in food preparation), are platforms, mats, or other dry standing places provided where practicable?	Y N N/A
20. Are floors kept free of protruding nails, splinters, holes, or loose boards?	Y N N/A
21. Are aisles and passageways kept clear and in good repair, with no obstructions that could create a hazard?	Y N N/A
22. Are covers and/or guardrails provided to protect people from falling into pits, tanks, vats, ditches, etc.?	Y N N/A
23. Are areas used for storage of materials marked with conspicuous signs that indicate the load-bearing capacity of the floor?	Y N N/A
24. Is the weight of stored materials assessed to ensure that it is below the load-bearing capacity of the floor?	Y N N/A

	Circle the Appropriate Answer
2. Are all floor openings to stairways, ladderways, hatchways, chutes, or manholes guarded by a standard railing and toeboard (on all sides except the entrance) or other protective cover?	Y N N/A
3. Is every temporary floor opening guarded by a standard railing or constantly attended by someone?	Y N N/A
4. Is every floor hole into which a person could fall guarded by either a standard railing and toeboard or floor hole cover?	Y N N/A
5. Is every floor hole into which a person could not fall (because of fixed machinery, equipment, or walls) protected by a cover that leaves no openings more than 1 inch wide? <i>Note: The cover must be securely held in place to prevent tools or materials from falling through.</i>	Y N N/A
6. Where doors or gates open directly onto a stairway, does a platform allow an effective width of at least 20 inches when the door swings open?	Y N N/A
7. Is every open-sided floor or platform that is 4 feet or more above the adjacent floor ground level guarded by a standard railing on all open sides?	Y N N/A
8. Is every runway guarded by a standard railing on all open sides that are 4 feet or more above the floor or ground level?	Y N N/A
9. Regardless of height, are all open-sided floors, walkways, platforms, or runways guarded with a standard railing and toeboard if they are above or adjacent to any dangerous equipment or operation?	Y N N/A
10. Is every open-sided floor or platform that is 4 feet or more above the adjacent floor ground level guarded by a toeboard if, beneath the open sides: a. people could pass; b. machinery could move; or c. equipment could create a hazard of falling materials?	Y N N/A
11. Is every wall opening from which the drop is more than 4 feet guarded with a standard railing or other barriers?	Y N N/A
12. Is every window wall opening guarded by slats, grill work, or standard railing if: a. it is at a stairway landing, floor, platform, or balcony from which the drop is more than 4 feet; and b. the bottom of the opening is less than 3 feet above the platform or landing?	Y N N/A

### C. Guarding Floors, Stairs and Other Openings

	Circle the Appropriate Answer
1. Is every skylight floor opening and hole guarded by a standard skylight screen or a fixed standard railing on all exposed sides?	Y N N/A

	Circle the Appropriate Answer
13. Is every flight of stairs with four or more risers equipped with standard stair railings or standard handrails as specified below? a. On stairways less than 44 inches wide with both sides enclosed, at least one handrail is required, preferably on the right hand side descending. b. On stairways less than 44 inches wide with one open side, at least one stair railing must be on the open side. c. On stairways less than 44 inches wide with both sides open, one stair railing is required on each side. d. On stairways more than 44 inches wide but less than 88 inches wide, one handrail on each enclosed side and one stair railing on each open side is required. e. On stairways 88 or more inches wide, one handrail on each enclosed side, one side railing on each open side, and one intermediate stair railing located approximately midway of the width is required.	Y N N/A
14. Where standard railings are provided, do they meet the following specifications? a. The rail must consist of a top rail at a height of 42 inches and a mid rail at approximately 21 inches. b. The top rail must be smooth surfaced throughout the length of the railing. It must be able to withstand a force of 200 pounds in any direction with a deflection of less than 2 inches.	Y N N/A
15. Are all stair railings between 30 and 34 inches from the top of the rail to the surface of the tread in line with the face of the riser at the forward edge of tread?	Y N N/A
16. If wooded railings are used for guardrails, are the posts at least 2 inch by 4 inch and spaced less than 6 feet apart? <i>Note: The top rail and intermediate rails must also be at least 2 inches by 4 inches stock.</i>	Y N N/A
17. If pipe railings are used, are posts and top and intermediate rails at least 1 1/2 inches nominal diameter with posts spaced less than 8 feet on centers?	Y N N/A
18. If structural steel is used for guardrails, are the posts and top and intermediate rails: a. at least 2 inches by 3/8 inch angle irons; or b. other metal shapes of equivalent bending strength with posts spaced not more than 8 feet on centers?	Y N N/A
19. Is the guardrail anchored and of such construction that it is capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail?	Y N N/A
20. Are standard toeboards at least 4 inches in height provided at the floor of the guardrail?	Y N N/A
21. Are handrails constructed so that they can be easily grasped (i.e., rounded)?	Y N N/A
22. Are all handrails and railings provided with a clearance of at least 3 inches between the handrail or railing and any other object? <i>Note: A distance less than this would make it difficult to get a good grasp in an emergency.</i>	Y N N/A

	Circle the Appropriate Answer
23. Are skylight screens constructed so that they are capable of withstanding a load of at least 200 pounds applied perpendicularly to any area on the screen? <i>Note: Sometimes people get on the roof and fall through skylight screens that are not designed to prevent this type of fall.</i>	Y N N/A
24. Are wall opening barriers (rails, rollers, picket fences, and half doors) constructed and mounted so that the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward) at any point on the top rail or corresponding member?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:75 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §2721. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 27, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- a. severity;
- b. frequency/probability; and
- c. exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

NOTE: The greater the risk, the higher the point value.

B. Severity. Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 27, Hazard Identification, result in an actual incident. The following point values are suggested.

#### 1. Four Points—Catastrophic:

- a. loss of life;
- b. permanent disability;
- c. loss of entire facility;
- d. permanent.

#### 2. Three Points—Critical:

- a. severe injury or illness with lost time;
- b. major property damage;
- c. no permanent disability or fatality;

d. interruption of activities for extended period of time.

3. Two Points—Marginal:

- a. minor injury or illness;
- b. minor property damage;
- c. interruption of activities for more than one day.

4. One Point—Negligible:

- a. probably no injury or illness;
- b. no loss other than interruption of activities for a short period of time.

C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- a. How likely is it that things will go wrong as a result of the hazard that has been identified?
- b. How often is the activity which creates the hazard performed?
- c. How often is the hazard present?

2. Use the following point values.

- a. Three Points—high probability of occurrence.
- b. Two Points—moderate probability of occurrence.
- c. One Point—low probability of occurrence.

D. Exposure. Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

- 1. Three Points—many persons are affected frequently.
- 2. Two Points—a few persons are affected frequently.
- 3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §2721.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 27 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §2721.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the

highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:77 (January 2007).

## Subchapter D. Hazard Control Measures

### §2933. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types, and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

- 1. engineering controls;
- 2. administrative controls; and
- 3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the



presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:78 (January 2007).

## Chapter 29. Means of Egress/Escape

### Subchapter A. General Provisions

#### §2901. Worksheet Instructions

A. Use this worksheet as a guide to conduct a survey of the instructional facilities. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:78 (January 2007).

## Subchapter B. General

### §2911. Self-Inspection

#### A. Checklist

	Circle the Appropriate Answer
1. Are exits provided to permit the prompt escape of occupants in case of fire or other emergency?	Y N N/A
2. Is every exit, way of approach, and way to travel from the exit to the street continuously maintained and free of all obstructions or impediments? <i>Note: The following items, if they block fire exists, are examples of violations:</i> <ol style="list-style-type: none"> <li>i. boxes of light tubes;</li> <li>ii. empty boxes;</li> <li>iii. a cart;</li> <li>iv. metal fence posts;</li> <li>v. lawnmowers;</li> <li>vi. steel racks;</li> <li>vii. wood;</li> <li>viii. tools;</li> <li>ix. scales;</li> <li>x. ball racks;</li> <li>xi. soccer balls;</li> <li>xii. stored equipment;</li> <li>xiii. machines on the floor; and</li> <li>xiv. tripping hazards such as electric cords, tools, lumber, and hoses.</li> </ol>	Y N N/A
3. Are exits maintained so as to provide free and unobstructed egress or escape when the room is occupied? <i>Note: No locks, chains, or fastenings to prevent free escape from the inside are permitted.</i>	Y N N/A
4. Does every building or area have two exits if one exit could be blocked because of fire, smoke, or other emergency?	Y N N/A
5. Do exits discharge directly onto a street, yard, court, or other open space that gives safe access to a public way?	Y N N/A
6. Do exit doors swing in the direction of travel when an area is occupied by more than 50 people or where hazardous operations are conducted?	Y N N/A
7. Are all exit doors and paths of exit 28 inches or more in width? <i>Note: Examples of violations include a stack of wood restricting the exit to 14 inches, a space of only 17 inches between the desk and the wall, and a space of only 14 inches between desks.</i>	Y N N/A
8. Are means of egress or exit designed and maintained to provide adequate head room, with the ceiling height at least 7 1/2 feet and any projection from the ceiling more than 6 feet 8 inches from the floor?	Y N N/A
9. Is every exit clearly visible and the route to it conspicuously indicated so everyone readily knows the direction of escape from any point?	Y N N/A
10. In areas equipped for artificial illumination, do all exit paths have adequate and reliable illumination?	Y N N/A
11. Are exits prohibited through bathrooms or other rooms subject to locking?	Y N N/A
12. Is storage of flammable or combustible materials in exit corridors prohibited?	Y N N/A
13. Is the use of highly flammable furnishings or decorations prohibited?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:78 (January 2007).

### §2913. Exit Marking

#### A. Exit Signs

	Circle the Appropriate Answer
1. Is access to exits marked by readily visible signs and arrows when the way to reach it is not immediately visible?	Y N N/A
2. Are doors, passage ways or stairways that are neither exits nor a way to an exit, and which can be mistaken for an exit, marked with a sign reading "Not An Exit" or similar designation? <i>Note: Other appropriate markings would be:</i> i. "To Basement"; ii. "To Storeroom"; iii. "To Linen Closet"; iv. etc.	Y N N/A
3. Are exit signs clearly visible, distinctive in color, and easily distinguished from decorations, interior finish, and other signs? <i>Note: The following are prohibited:</i> i. decorations, furnishings or equipment that impair the visibility of exit signs; and ii. any brightly illuminated sign, display, or object in or near the line of vision of the egress sign that detracts attention from the egress sign so that it is not noticeable.	Y N N/A
4. Is every exit sign illuminated by a reliable light source?	Y N N/A
5. In areas where reduction of normal illumination is permitted, are exit signs internally illuminated?	Y N N/A
6. Does every exit sign have the word "Exit" in plain legible letters not less than 6 inches high, with the principal strokes of letters not less than 3/4 inch wide?	Y N N/A

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 17:6(A)(10).

**HISTORICAL NOTE:** Promulgated by the Board of Elementary and Secondary Education, LR 33:79 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §2923. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 29, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- severity;
- frequency/probability; and

c. exposure.

2. Each of the factors listed in Subparagraphs a - c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

**NOTE:** The greater the risk, the higher the point value.

**B. Severity.** Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 29, Hazard Identification, result in an actual incident. The following point values are suggested.

#### 1. Four Points—Catastrophic:

- loss of life;
- permanent disability;
- loss of entire facility;
- permanent.

#### 2. Three Points—Critical:

- severe injury or illness with lost time;
- major property damage;
- no permanent disability or fatality;
- interruption of activities for extended period of time.

#### 3. Two Points—Marginal:

- minor injury or illness;
- minor property damage;
- interruption of activities for more than one day.

#### 4. One Point—Negligible:

- probably no injury or illness;
- no loss other than interruption of activities for a short period of time.

#### C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- How likely is it that things will go wrong as a result of the hazard that has been identified?
- How often is the activity which creates the hazard performed?
- How often is the hazard present?

#### 2. Use the following point values.

- Three Points—high probability of occurrence.
- Two Points—moderate probability of occurrence.
- One Point—low probability of occurrence.

**D. Exposure.** Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that

have been identified. The following point values are suggested.

1. Three Points—many persons are affected frequently.
2. Two Points—a few persons are affected frequently.
3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §2923.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 29 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §2923.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:79 (January 2007).

## Subchapter D. Hazard Control Measures

### §2937. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types, and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

1. engineering controls;
2. administrative controls; and
3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls, look for ways to:

1. design or redesign hazardous situations or equipment;
2. substitute safer materials in the place of dangerous ones; and
3. install guards or other protective devices.

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and
3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:80 (January 2007).

## Chapter 31. Ergonomics Worksheet

### Subchapter A. General Provisions

#### §3101. Worksheet Instructions

A. Use this worksheet as a guide to conduct a survey of the instructional facilities. Answer each of the listed questions by circling the answer that applies to the condition at the facility. "Y" indicates "Yes," "N" indicates "No," and "N/A" indicates "Not Applicable." If any of the questions are answered "N" for "No," it is the sign of a condition that may indicate a possible hazard. For every "N" marked, write a brief description of the deficient condition observed in the space provided at the end of the worksheet.

B. Additional guidance material may be found in Appendix G, Ergonomics, in the Safety and Health Manual on the Louisiana Department of Education website (<http://www.doe.state.la.us/lde/index.html>).

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:80 (January 2007).

### Subchapter B. Hazard Identification

#### §3111. Evaluation

##### A. Physical Stress

	Circle the Appropriate Answer
1. Does the job require contact of fingers or wrist with sharp edges?	Y N N/A
2. Do hand tools or process equipment vibrate the worker's hands, arms, or whole body?	Y N N/A

##### B. Force

	Circle the Appropriate Answer
1. Does the job require more than 10 pounds of force?	Y N N/A
2. Does the job require using a pinch grip (between thumb and finger)?	Y N N/A
3. Are gloves used, increasing the force needed for motion of the fingers?	Y N N/A
4. Does the job require frequent heavy lifting (> 40 pounds, two hours per day)?	Y N N/A
5. Does the job require occasional very heavy lifting (> 50 pounds)?	Y N N/A
6. Does the job require handling items that are difficult to grasp?	Y N N/A

##### C. Posture

	Circle the Appropriate Answer
1. Does the job require flexion or extension (bending up or down) of the wrist?	Y N N/A
2. Does the job require deviating the wrist side to side (ulnar or radial deviation)?	Y N N/A
3. Is the worker seated while performing the job?	Y N N/A

	Circle the Appropriate Answer
4. Does the job require "clothes wringing" motion?	Y N N/A
5. Does the job require extended reaches beyond normal arm reach?	Y N N/A
6. Does the job require awkward lifts or carries that are: a. near the floor; b. above the shoulders; or c. far in front of the body?	Y N N/A
7. Does the job require exertion of pushing, pulling, lifting, or lowering forces in awkward positions to side, overhead, or at extended reaches?	Y N N/A
8. Do workers sit on the front edges of chairs?	Y N N/A
9. Is the worker required to maintain the same posture, either sitting or standing, all of the time?	Y N N/A

##### D. Workstation

	Circle the Appropriate Answer
1. Is the orientation of the work surface nonadjustable?	Y N N/A
2. Does the work surface appear to be too high or too low for many operators?	Y N N/A
3. Is the location of the tool nonadjustable?	Y N N/A
4. Does the job require handling oversized objects that require two-person lifting?	Y N N/A
5. Is there an absence of material handling aids, such as air hoists and scissors tables?	Y N N/A
6. Do workers attempt to modify their chairs or work surfaces by adding cushions or pads?	Y N N/A

##### E. Repetitiveness

	Circle the Appropriate Answer
1. Does the job require that one motion pattern be repeated at a high frequency?	Y N N/A
2. Is the cycle time for repetitive operations less than 30 seconds?	Y N N/A
3. Is the work pace rapid and not under the operator's control?	Y N N/A

##### F. Tool Design

	Circle the Appropriate Answer
1. Is the handle too large for the thumb and finger to slightly overlap around a closed grip?	Y N N/A
2. Is the span of the tool's handle less than 5 cm (2 inches)?	Y N N/A
3. Is the handle of the tool made of metal?	Y N N/A
4. Is the weight of the tool greater than 10 pounds?	Y N N/A
5. Are heavy tools lacking devices to suspend some of their weight?	Y N N/A
6. Does the use of the tool require flexion or extension of the wrist (bending up or down)?	Y N N/A

	Circle the Appropriate Answer
7. Does the tool require ulnar or radial deviation of the wrist (bending to either side)?	Y N N/A

## G. Work Environment

	Circle the Appropriate Answer
1. Are housekeeping practices poor, e.g., aisles cluttered, waste on the floor?	Y N N/A
2. Are floors uneven or slippery?	Y N N/A
3. Does the job require frequent (daily) stair or ladder climbing?	Y N N/A
4. Do the work tasks contain significant visual components, requiring good lighting?	Y N N/A
5. Does the worker's eye have to move periodically from dark to light areas?	Y N N/A
6. Is the air temperature uncomfortably hot or cold?	Y N N/A

## H. Computer Work Stations

	Circle the Appropriate Answer
1. Are Video Display Terminals (VDT) Stations arranged so that lighting does not reflect directly off the screen?	Y N N/A
2. Do the seat and backrest of the chair support comfortable posture permitting occasional variation in the sitting positions?	Y N N/A
3. Is the seat height adjustable so that the entire sole of the foot rests on the floor or a footrest, and the back of the knee is slightly higher than the seat of the chair?	Y N N/A
4. Is the backrest height adjustable?	Y N N/A
5. Is the backrest angle adjustable?	Y N N/A
6. Is the workstation adjusted so that the wrist is in a straight line, i.e., not bent up or down?	Y N N/A
7. Is the topmost line of the screen slightly below eye level?	Y N N/A
8. Can the screen position be tilted?	Y N N/A
9. Is the document holder positioned at the same height and at the same distance from the viewer as the screen?	Y N N/A
10. Is the work surface large enough to hold all needed reference material (at least 35 inches wide)?	Y N N/A
11. Can paper be easily and conveniently loaded into printers without the need for lifting heavy boxes in awkward postures?	Y N N/A
12. Does the screen have color, brightness, and contrast satisfactory with the operator?	Y N N/A
13. Does excessive illumination at the VDT produce glare or distortion of the screen or does low illumination make it difficult to read documents?	Y N N/A
14. Are characters on the screen clear and free of flicker or jitter?	Y N N/A
15. Is there adequate room under the work table to permit movement of operator's legs and footrest where necessary?	Y N N/A

	Circle the Appropriate Answer
16. Do task schedules allow the operator at least a 15 minute break period during each two-hour period?	Y N N/A

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:80 (January 2007).

## Subchapter C. Hazard Evaluation and Prioritization

### §3121. Relative Risk Factors

#### A. Introduction

1. This part of the worksheet enables the instructor to examine each of the potential hazards (the "N" answers) that were identified in Subchapter B of this Chapter 31, Hazard Identification, and to assign it a value corresponding to its relative risk. Relative risk is usually defined in terms of three factors:

- a. severity;
- b. frequency/probability; and
- c. exposure.

2. Each of the factors listed in Subparagraphs a-c is described in Subsections B-D.3 below, and the point values are provided for the corresponding degree of risk.

NOTE: The greater the risk, the higher the point value.

B. Severity. Consider the potential losses or destructive and disruptive consequences that are most likely to occur if any of the hazards that have been identified in Subchapter B of this Chapter 31, Hazard Identification, result in an actual incident. The following point values are suggested.

#### 1. Four Points—Catastrophic:

- a. loss of life;
- b. permanent disability;
- c. loss of entire facility;
- d. permanent.

#### 2. Three Points—Critical:

- a. severe injury or illness with lost time;
- b. major property damage;
- c. no permanent disability or fatality;
- d. interruption of activities for extended period of time.

#### 3. Two Points—Marginal:

- a. minor injury or illness;
- b. minor property damage;
- c. interruption of activities for more than one day.

## 4. One Point—Negligible:

- a. probably no injury or illness;
- b. no loss other than interruption of activities for a short period of time.

## C. Frequency/Probability (Likelihood of Occurrence)

1. Consider the probability that a loss would occur. Ask yourself the following key questions.

- a. How likely is it that things will go wrong as a result of the hazard that has been identified?
- b. How often is the activity which creates the hazard performed?
- c. How often is the hazard present?

## 2. Use the following point values.

- a. Three Points—high probability of occurrence;
- b. Two Points—moderate probability of occurrence;
- c. One Point—low probability of occurrence.

D. Exposure. Consider the number of persons (students and faculty) who could be potentially affected by a worst case scenario caused by each of the potential hazards that have been identified. The following point values are suggested.

- 1. Three Points—many persons are affected frequently;
- 2. Two Points—a few persons are affected frequently;
- 3. One Point—a few persons are affected up to a few times per day.

E. Prioritization. Based on the analysis above, and using the hazard prioritization matrix below, prioritize the hazards identified in Subchapter B of this Chapter and evaluated in §3121.B-D.3.

1. Step One. List each of the hazardous conditions that were identified in Subchapter B of this Chapter 31 in the first column of the worksheet.

2. Step Two. Based on the criteria given above in §3121.B-D.3, assign a point value for each hazard in each of the three columns.

3. Step Three. Add up the point values, horizontally, for each of the hazards.

4. Step Four. Rearrange the hazards that were identified in descending order with the one having the highest total point value first, then the one with the next-highest point value; and so on.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

5. Step Five. A list has just been developed of the potentially hazardous conditions existing at the school facility based on their relative priority.

F. The items on the prioritized list with the highest point value will generally be those that are most serious, and should receive the greatest attention in terms of resources expended to eliminate it. As with all organizations, especially educational institutions, resources are not without limitations. There is a finite amount of money, time, and personnel available to solve these problems. By prioritizing the hazards and concentrating in order on those with the highest priority, concentration will be on the "worst first." This is the smart way to allocate limited resources. Even though instructors might not get all the way through the list, there will be the satisfaction and peace of mind that comes with dealing with the "really important" problems first.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:82 (January 2007).

## Subchapter D. Hazard Control Measures

### §3125. Control Categories

A. This Subchapter D is to implement those control measures that will either eliminate or minimize hazards to the point where they will become acceptable. Also, these control measures will be applied to the most serious hazards first, then to the next-most-serious, and so on.

B. Most control measures fall into one or more of three categories. Paragraphs 1-3 below list the three types, and also outline the preferred sequence for applying the controls, as engineering controls are the most effective way to control a hazard, followed by administrative controls and finally by personal protective equipment. Many times, the most effective controls are a blending of all three types. They are:

- 1. engineering controls;
- 2. administrative controls; and
- 3. personal protective equipment (PPE).

C. Engineering Controls. Usually engineering controls are considered the most effective because, if they are successful, they eliminate the hazard, or remove it from the presence of people. When applying engineering controls, look for ways to:

- 1. design or redesign hazardous situations or equipment;
- 2. substitute safer materials in the place of dangerous ones; and
- 3. install guards or other protective devices.

Hazard Prioritization Matrix				
Hazard Identified	Severity	Probability	Exposure	Total Points

D. Management/Administrative Controls. Management/administrative controls are next in line to be applied in the control of a hazard because they are the direct responsibility of the persons who are operating the facility. In an educational environment, that means the administration and faculty. These controls involve such things as:

1. implementation and enforcement of safe policies and procedures;
2. limitations on the exposure to hazards through work assignments, number of persons involved in an activity, etc.; and

3. similar approaches.

E. Personal Protective Equipment (PPE). The last approach to hazard control involves the use of PPE. This is because PPE does not eliminate the hazard but, rather, only establishes a barrier or shield between the hazard and the exposed person. If the exposed person does not have the correct type of PPE, or does not use it properly, then that person will be exposed to the full effect of the hazard.

AUTHORITY NOTE: Promulgated in accordance with R.S. 17:6(A)(10).

HISTORICAL NOTE: Promulgated by the Board of Elementary and Secondary Education, LR 33:83 (January 2007).