CRASIF Workers' Compensation Program Safety Manual

"This safety and health manual is dedicated to the county road commission employees who build, improve, and maintain Michigan's roads."

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by

The Board of Trustees of CRASIF
and
The ASU Group – *Risk Management*

Revised August 2003, September 1999

INTRODUCTION

No matter how sophisticated your current safety program, it can be improved. To assist its member Road Commissions, The County Road Association Self-Insurance Fund ("CRASIF") has developed the *Workers' Compensation Program Safety Manual.* This manual provides guidelines to help critique and improve each aspect of a workplace safety and health program: Management Leadership, Employee Involvement, Inspection and Analysis, Hazard Prevention and Control, and Training. The following resources were used in the manual's development: U.S. Department of Labor (Occupational Safety and Health Administration), MIOSHA, *CRASIF Formal Safety Manual*, National Institute of Occupational Safety and Health ("NIOSH"), National Fire Prevention Association ("NFPA"), the Michigan Motor Vehicle Code, and Federal Motor Carrier Safety Regulations Handbook ("FMCSR"). Now, you can approach safety and health issues with proven methods that will work for you.

The CRASIF Board of Trustees

First Revision. This revision was completed in April 2000. At the next annual meeting, September 2000, CRASIF plans to distribute a CD to each CRASIF Member. To keep your CRASIF Safety Manual current, we suggest that you print and insert the following pages and sections: *all the pages listed on page 423, Bloodborne Pathogens Program, Hazard Communication Program, Hazardous Energy Program, the Respirator Protection Program, Automotive Service Operation, Aerial Work Platform Training Outline, Table of Contents* (pages 3-5), and *Index to the Appendix* (page 169).

Second Revision. This revision was completed in August 2003. For a complete list of revised pages, please refer to page 423. At the present time, the 2nd revision is being circulated on a need or request basis only. However, we plan to distribute a revised CD to all CRASIF Members in 2003.

CRASIF Workers' Compensation Program Safety Manual

Table of Contents

Disclaimer Clause: *The content of the "CRASIF Workers' Compensation Program Safety Manual" (August 1999) is based on information obtained from reliable sources.* ***It does not address every unsafe condition or practice.*** *Rather, the information and suggestions provided by The ASU Group -- Risk Management Services -- are advisory in nature and intended only to assist your safety program.* ***Furthermore, it is not a guarantee of compliance with any federal, state, or local laws or standards, such as the MIOSHA Standards.***

IMPORTANT NAMES AND NUMBERS

1. MIOSHA Program Directory

Fatality Hotline	**Weekdays 8 a.m. – 5 p.m.**	**(517) 322-1817**
	After 5 p.m. & Weekends	**(517) 322-0333**

Note: All fatalities and catastrophes must be reported to the Department of Labor within 8-hours. The line is in service 24-hours a day.

MI0SHA Employee Complaint Hotline 1-800-886-4674

Administration (517) 322-1814

Responsible for overall administration of MIOSHA program, bureau policy decisions, and operations.

Appeals Division (517) 322-1297

Represents the bureau in formal appeals of citations generated by MIOSHA inspections.

Construction Safety Division (517) 322-1856

Regulates working conditions of public and private employees by enforcing construction safety standards including accident *and complaint* investigations on construction sites.

General Industry Safety Division (517) 322-1831

Regulates working conditions of public and private employees by enforcing general industry safety standards including *accident* and complaint investigations. GI division regulates employee safety in virtually every type of work setting except mining, domestic and *construction.*

Office of Employee Discrimination (248) 256-3620

Administers and enforces provisions of MI0SHA covering employee complaints of alleged discrimination as provided in Section 65 of Act 154 of 1974 as amended.

Occupational Health Division (517) 322-1608

MIOSHA Publications Library (517) 322-1809

Safety Education & Training ("SET") Division (517) 322-1809

Standards & Statistical Information Division (517) 322-1845

Coordinates management information systems, provides analysis of injury/illness data, prepares MI0SHA statistical reports, distributes MOSHA recordkeeping forms and answers questions on recordkeeping requirements.

2. CRASIF

Robert W. Greenwood, Sr., *Board Chairman*	(231) 627-2383
D. Mack Rabourn, *Administrator*	(231) 258-5881
Dale Ruttan, *Treasurer*	(517) 676-2014

3. The ASU Group

24-hour Call Center	(800) 968-3767 Fax (517) 349-9063
Fred Haring, *Account Executive for CRASIF*	(517) 349-7905
Tammy Richison, *District Claims Manager*	(517) 349-7964
Edward W. Kaleefey, *Senior Loss Control Consultant*	(616) 677-2264
John S. Wall, *Loss Control Consultant*	(231) 946-1021

4. Safety Supplies & Resources

American National Standards Institute	www.ansi.org
American Society of Safety Engineers	(847) 699-2929
Consumers Energy	(616) 789-3520 (616) 530-4410

Christie Communications: Safety Related Internet www.christe.ab.ca/safelist

D & L Associates:	Safety Awards	(800) 328-0307
DOT		(202) 366-5580

EMED Co.:	Signage & Safety Communication	(800) 442-3633
EPA		(202) 260-2080
Fleet Maintenance Supervisor		(949) 830-7520
Global Industrial and Occupational Safety Equipment		(800) 645-1232
Karl Kuemmerling:	Arborists, Linemen, Nurserymen	(800) 464-8227
J.J. Keller		(800) 843-3174
Michigan Technological Institute (“LTAP”)		(906) 487-2102
Michigan Trucking Assoc.		(800) 325-6733
Michigan Center for Truck Safety		LP = (800) 682-4682 UP = (800) 469-7364
MIOSHA website		www.cis.state.mi.us/bsr/
National Arborists Assoc.		(877) 733-2622
National Safety Council		(800) 621-7619 www.nsc.org
National Fire Protection Assoc.		(617) 770-3000 www.nfpa.org
NIOSHA		(800) 35-NIOSH www.cdc.gov/niosh/publistb.html
OSHA		(202) 219-8151 www.ohsa.gov
Rand Materials Handling Equipment		(800) 366-2300
Safety Services (Safety Supplies)		(800) 632-2955
Unique Truck Equipment		(800) 777-4855
Vallen Safety Supplies		(313) 585-8700 (517) 496-2170
Valley Truck Parts		(616) 241-5431

Videos:	*Long Island Productions*	(800) 390-8283
	SET: Film & Video Library	(269) 288-4501
	Safety Shorts	(800) 458-2236
Woodland International Truck		(616) 241-4656

SAFETY & HEALTH PROGRAM
SELF-ASSESSMENT QUESTIONNAIRE

Employer: _____

Date: ___ - ___ - ___ **SIC**: ____ (optional) **Number of Employees**: _____

Incidence Rate: _____ (optional) **W. C. Claims**: Current Year ____
1st Prior Year ____
2nd Prior Year ____

Industry Incidence Rate: _____ (optional) **Experience Modification Factor**:
Current Year _____
1st Prior Year _____
2nd Prior Year _____

Self-assessment Instructions:

- **Consider** the descriptions below, numbers (0)-(4), as indicators of your S&H Program's effectiveness.
- **Circle** most appropriate number. (Number (4) is excellent.)
- **Calculate** your score at the end.
- **Comment** at the end on improvement and/or suggestions.

I. MANAGEMENT LEADERSHIP AND EMPLOYEE PARTICIPATION

A. Clear work site safety and health policy

(4) Workforce can explain, and fully embraces safety and health policy.
(3) Majority of personnel can explain policy.
(2) Some personal can explain policy.
(1) Management can provide or state (where appropriate) a policy.
(0) There is no apparent policy.

B. Clear goals and objectives

(4) Workforce fully embraces goal, and can explain desired results and measures for achieving objectives.
(3) Majority of personnel can explain desired results and measures for achieving objectives.
(2) Some personnel can explain policy.
(1) Management can provide or state (where appropriate) a goal and objectives.
(0) No apparent safety and health goal(s) or objective(s).

C. Management leadership

(4) All personnel can give examples of management's active commitment to safety and health.
(3) Majority of personnel can give examples of management's active commitment to safety and health.
(2) Some personnel can give examples of management's active commitment to safety and health.
(1) Some evidence exists that management is committed to safety and health.
(0) Safety and health does not appear to be a management value or significant concern.

D. Management example

(4) Personnel report management always follows the rules and addresses the safety behaviors of others.
(3) Management follows the rules and usually addresses the safety and behavior of others.
(2) Management follows the rules and occasionally addresses the safety and behavior of others.
(1) Management generally appears to follow basic safety and health rules.
(0) Employee involvement in safety and health issues is not encouraged or rewarded.

E. Employee Involvement

(4) Personnel have ownership of safety and health and can describe active role.
(3) Majority of personnel feels they have a positive impact on identifying and resolving safety and health issues.
(2) Some personnel can explain what performance is expected of them.
(1) Employees frequently feel they have a positive impact on identifying and resolving safety and health issues.
(0) Employee's involvement in safety and health issues is not encouraged or rewarded.

F. Assigned safety and health responsibilities

(4) All personnel can explain what performance is expected of them and all elements appear to be assigned.
(3) Majority of personnel can explain what performance is expected of them.
(2) Some personnel can explain what performance is expected of them.
(1) Evidence exists that performance expectations are generally spelled out for all personnel.
(0) Specific job responsibilities and performance expectations are generally unknown or hard to find.

G. Authority and resources for safety and health

(4) All personnel believe they have the necessary authority and resources to meet their responsibilities.
(3) Majority of personnel believe they have the necessary authority and resources to do their job.
(2) Authority and resources are spelled out for all, but there may be a reluctance to use them.
(1) Authority and resources exist, but most appear to be out of the control of the employee.
(0) Personnel do not appear to have adequate authority and resources to perform assigned responsibilities.

H. Accountability

(4) Personnel are held accountable and all performance is addressed with appropriate consequences.
(3) Accountability systems are in place, but consequences used tend to be for negative performance only.
(2) Personnel are generally held accountable, but consequences rarely follow performance.
(1) Accountability exists, but it appears to be generally hit or miss and prompted by serious negative events.
(0) There does not appear to be any effort at accountability.

I. Program review

(4) In addition to a comprehensive review, a process is used which drives continuous correction.
(3) A comprehensive review is conducted at least annually and drives appropriate program modifications.
(2) A program review is conducted, but it does not appear to drive all necessary program changes.
(1) Changes in programs are driven by events such as accidents or compliance activity.
(0) There is no evidence of any program review process.

II. WORKPLACE ANALYSIS

A. Hazard Identification (expert survey)

(4) In addition to corrective action, regular expert surveys result in updated hazard inventories.
(3) Comprehensive expert surveys are conducted periodically and drive appropriate corrective action.

(2) Comprehensive expert surveys are conducted, but updated and corrective action sometimes lags.
(1) Qualified safety or health expert surveys are conducted in response to accidents, complaints, or compliance activity.
(0) There is no evidence of any comprehensive exert hazard surveys having been conducted.

B. Hazard Identification (change analysis)

(4) In addition to team analysis, employees affected are involved in all reviews.
(3) A review of all planned/new facility, process, material, or equipment is conducted by a competent team.
(2) Planned/new facilities, processes, materials, or equipment is conducted by a competent team.
(1) Hazard reviews of planned/new facilities, processes, materials, or equipment are problem driven.
(0) No system or requirement exists for hazard review of planned/new operations.

C. Hazard Identification (routine hazard analysis)

(4) Employees have had impute to the hazard analysis of their jobs.
(3) A current hazard analysis exists for all jobs, processes or phases and is understood by many employees.
(2) A current hazard analysis exists for all jobs, processes or phases and is understood by many employees.
(1) A hazard analysis program exists, but it may not cover all jobs and/or few are aware of results.
(0) There is no routine hazard analysis system in place at this facility.

D. Hazard Identification (inspection)

(4) Well-trained employees at all levels conduct frequent and verified inspections, and hazards of any kind are rare.
(3) Trained personnel conduct inspections and all items are corrected, and repeat hazards seldom found.
(2) Inspections are conducted by trained personnel, most items corrected; but some hazards are still in evidence.
(1) An inspection program exists, but coverage and corrective action is not complete.
(0) There is no routine inspection program in place at this facility, and many hazards can be found.

E. Hazard Reporting System

(4) Employees feel comfortable identifying and self-correcting hazards.

(3) A comprehensive system for gathering hazard information exists; it is positive, rewarding, and effective.
(1) A system exists for hazard reporting; employees feel they can use it; but, it may be slow to respond.
(2) A system exists for hazard reporting; but employees may find it unresponsive; Or, they be unclear on its use.
(0) No formal hazard reporting system exists, and/or employees do not appear comfortable reporting hazards.

F. Accident/incident Investigation

(4) All loss-producing incidents and "near misses" are investigated for root cause with effective prevention.
(3) All OSHA-reportable incidents are investigated and effective prevention is implemented.
(2) OSHA-reportable incidents generally are investigated, but cause identification or correction may be inadequate.
(1) Some investigation of incidents takes place, but root cause is seldom identified and correction is spotty.
(0) Injuries are either not investigated, or investigation is limited to report writing required for compliance.

G. Injury/illness analysis

(4) All employees are fully aware of incident trends, causes, and means of prevention.
(3) Trends are fully analyze and displayed; common causes communicated; and, management ensures prevention.
(2) Data is collected and analyzed, common causes communicated to concern supervisors.
(1) Data is centrally collected and analyzed but not widely communicated for prevention.
(0) Little or no effort is made to analyze data for trends, causes, and prevention.

III. HAZARD PREVENTION AND CONTROL

A. Timely hazard control

(4) Hazard controls are fully in place, known to and supported by workforce, with concentration on engineering controls and reinforcement/enforcement of safe work procedures.
(3) Hazard controls are fully in place with priority on engineering controls, safe work procedure, administrative controls, and personal protective equipment (in that order).
(2) Hazard controls are fully in place, but order of priority varies.

(1) Hazard controls are generally in place, but priority and completeness varies.
(0) Hazard control is not considered complete, effective, and appropriate in this facility.

B. Facility/equipment maintenance

(4) Operators are trained to recognize maintenance needs and perform/order maintenance on schedule.
(3) An effective preventive maintenance schedule is in place and applicable to all equipment.
(2) A preventive maintenance schedule is in place and is usually followed except for higher priorities.
(1) A preventive maintenance schedule is in place but is often allowed to slide.
(0) There is little or no attention paid to preventive maintenance, breakdown maintenance is the rule.

C. Emergency planning and preparation

(4) All personnel know immediately how to respond as a result of effective planning, training, and drills.
(3) Most employees have a good understanding of responsibilities as a result of plans, training, and drills.
(2) There is an effective emergency response team, but others may be uncertain of their responsibilities.
(1) There is an effective emergency response plan; but training and drills are weak; and, roles may be unclear.
(0) Little effort is made to prepare for emergencies.

D. Emergency planning and preparation (equipment)

(4) The facility is fully equipped for emergencies, all systems and equipment are in place and regularly tested.
(3) All personnel know how to use equipment and communicate during emergencies.
(2) Well equipped with appropriate emergency phones and directions, most people know what to do.
(1) Emergency phones, directions, and equipment in place, but only emergency teams know what to do.
(0) There is little evidence of an effective effort at providing emergency equipment and information.

E. Medical program (health providers)

(4) Occupational health providers are regularly on-site, and they are fully involved in hazard identification and training.
(3) Occupational health providers are there when needed and generally involved in assessment and training.
(2) Occupational health providers are frequently consulted about significant health concerns.
(1) Occupational health providers are available; but they normally concentrate on clinical issues.
(0) Occupational health assistance is rarely requested or provided.

F. Medical program (emergency care)

(4) Personnel fully trained in emergency medicine are always available on-site.
(3) Personnel with basic first aid skills are always available on-site.
(2) Personnel with basic first aid skills are usually available with community assistance near-by.
(1) Either on-site or near-by community aid is always available on every shift.
(0) Neither on-site nor community aid can be assured at all times.

IV. SAFETY AND HEALTH TRAINING

A. Employees learn hazards, how to protect themselves and others

(4) Employees can demonstrate proficiency in, and support of, all areas covered by training.
(3) Facility is committed to high quality employee hazard training and ensures participation in regular updates.
(2) Facility provides legally required training, and makes an effort to include all personnel.
(1)Training is provided when need is apparent, and experienced personnel are assumed to know material.
(0) Facility depends on experience and informal peer training to meet needs.

B. Supervisors learn responsibilities and underlying reasons

(4) All supervisors assist in work site analysis, ensure physical protections, reinforce training, enforce discipline, and can explain work procedures based on training provided to them.
(3) Most supervisors assist in work site analysis, ensure physical protections, reinforce training, enforce discipline, and can explain work procedures based on training provided to them.
(2) Supervisors have received basic training, appear to understand and demonstrate

importance of work site analysis, physical protection, training, reinforcement, discipline, and knowledge of procedures.

(1) Supervisors make reasonable effort to meet safety and health responsibilities, but they have limited training.

(0) There is no formal effort to train supervisors in safety and in health responsibilities.

C. Managers learn safety and health program management

(4) All managers have received formal training in safety and health management and demonstrate full understanding.

(3) All managers follow, and can explain, their roles in safety and health program management.

(2) Managers generally show a good understanding of their safety and health management role and usually model it.

(1) Managers are generally able to describe their safety and health role but often have trouble modeling it.

(0) Managers generally show little understanding of their safety and health management responsibilities.

Scoring: Total the scores for each sub-element (the circled choice) and enter them below. The maximum possible score for each section is shown.

	Possible Score	*Actual Score*	*Percent of Total*
• *Management Leadership and Employee Participation*	(36)	_____	_____
• *Workplace Analysis*	(28)	_____	_____
• *Hazard Prevention and Control*	(24)	_____	_____
• *Safety and Health Training*	(12)	+_____	+_____
	(100)		
Your Totals:		_____	_____

GRADES:		
	90-100	**Excellent**
	80-89	**Good**
	70-79	**Fair**
	60-69	**Poor**
	50-59	**Lots of room for improvement**

Comments and/or Suggestions:

1. _____

2. _____

3. _____

4. _____

5. _____

Self-assessment Questionnaire completed by: _____,

_____ (Title)

IA. Management Commitment

1B. Safety and Health Policy

STATEMENTOF POLICY
BOARD OF TRUSTEES, COUNTY ROAD ASSOCIATION
SELF-INSURANCE FUND ("CRASIF")

The board of Trustees of the County Road Association Self-Insurance Fund, concerned with the safety and health of the employees of each member of the CRASIF, and recognizing the need to control on-the-job accidents and reduce the potentials for future accidents, hereby institutes this updated version of the CRASIF formal safety program.

Every employee is entitled to a safe and healthful place in which to work. Similarly, every employer is entitled to the continuing effort on the part of each worker, in assisting management in this program.

Accidents can be controlled by careful planning and observance of accepted safe work practices. On-the-job accidents involve substantial costs to everyone.

Loss of wages, pain and human suffering are totally unnecessary burdens to the worker. Loss of production, increased insurance expenses and list time days become a burden to the employer. Both can be avoided by the joint effort called for in this safety program.

In harmony with the above-recognized facts, the attached Association Safety Policy is now in effect.

Dale Ruttan
CRASIF-*Secretary & Treasurer*

Robert W. Greenwood, Sr.
CRASIF-*Board Chairman*

Duncan M. Rabourn
CRASIF-*Administrator*

Dated Signed: _____

2B. Definitions, Scope, Goal, and Objective

1C. *Definitions:* This document supersedes and replaces the previous CRASIF formal Safety Program adopted on October 1, 1978, and revised in 1995 and 1999. The following definitions apply to this document:

A.N.S.I.	American National Standards Institute
BOARD OF TRUSTEES	Nine-member board elected by Membership Association Workers' Comp. Program
CRASIF	County Road association Self-Insurance Fund
Employer (Company)	Individual CRASIF member
MIOSHA	Michigan Occupational Safety and Health Act
OSHA	Occupational Safety and Health Act (Federal)
N.S.C.	National Safety Council
Service Company	The ASU Group, 2120 University Park Dr., P.O. Box 77, Okemos, MI 48864-0077, (800) 968-0278 • (517) 349-2212 • Fax: (517) 349-9053
SHOULD	Recommended
SHALL	Mandatory

2C. *Scope:* Unanimously adopted by the CRASIF Board of Trustees on August 17, 1988, and amended through Board action on July 28, 1993, this program is intended to include all employees of all member Road Commissions, which are included in the Country Road Association Self-Insurance Fund (CRASIF), effective September 1, 1993. All Road Commissions added to the CRASIF program after that date will become included in this program on the inception date of membership.

3C. *Goal:* CRASIF's goal is to minimize the frequency and severity of on-the-job injuries and illnesses, by management involvement. Management is the key to success:

1D. By providing the mechanism and means to reduce the potential hazards and causal factors within the operations of the member Road Commissions of the CRASIF program;

2D. By making safety and health a priority;

3D. By communicating your safety policy through verbal explanations, written communications, and actions and example;

4D. Increasing employee involvement; and

5D. Establishing methods and objectives to assess and control hazards.

SAMPLE WORKSHEET RELATING TO OBJECTIVE GOAL

ACTIVITIES	PERSON(S) RESPONCIBLE	TARGET DATE	EVALUATE OBJECTIVE & RESULTS
1.To conduct monthly all-employee meetings to discuss current safety and health concerns.	Manager	Begin January	Annually
2. To establish a joint management/employees committee for inspections and accident Investigations.	Manager	Committee Functioning January 31st	Annually
3. To provide hazard recognition training to the committee members.	Safety Supervisor	Training Progress Completed by March 31st	Monthly

Guidelines for writing objectives

In general, a well-formulated object reflects the following:

1. It starts with the word "to," followed by an action verb.
2. It specifies a single key result to be accomplished.
3. It specifies a target date for its accomplishment.
4. It is specific and quantitative (Hence measurable and verifiable).
5. It specifies the "what" and "when," to avoid the "why" and "how."
6. It relates to manager's accountability and role in the organization.
7. It is readily understandable by those who will be contributing to its attainment.
8. It is realistic and attainable, but represents a specific challenge.
9. It provides maximum payoff on the required investment in time and resources as compared with other objectives being considered.

10. It is consistent with the resources available or anticipated.

11. It is consistent with basic organizational policies and practices.

3B. Establishing Visible Top Management Involvement

1C. Ways management can get out where it can be seen:

- Informal action
- Formal action
- Informal "instant" access
- The open door policy
- The "by-pass" meeting
- The birthday lunch

2C. Ways management can be an example:

- Following the rules
- Setting an example for supervisors

3C. Ways management can constructively take charge:

- Chairing the central safety and health committee
- Being accountable
- Ensuring safe and healthful contract work
- Bidding process
- Contract language
- Contract work monitoring
- Follow through

4B. Assignment of Safety and Health Responsibilities

1C. <u>Management</u> safety and health responsibility

- Establish a policy to hold the worksite in compliance with all applicable Federal or State standards and to provide safe and healthful work and working conditions for every person on the site.

- Provide the leadership and resources too carry out the stated company safety and health policy.

- Set objectives and support safety and health personal in their requests for necessary information, training, experts, facilities, tools and equipment to conduct an effective program and to establish a safe and healthy workplace and working conditions.

- Assign clear responsibilities accountable by checking to make sure they are meeting those responsibilities, providing correction to those who do not, and rewarding those who do.

- Keep in touch with employees and their safety and health activities, assist in giving direction and authority for those activities, and let employees see visible involvement.

- Set a good example in the following safety and health rules and safe work places.

- Require all venders, customers, subcontractors, and visitors to comply with the company safety and health policy.

- Make sure that you have a thorough understanding of the hazards and potential hazards that employees may be exposed to at the worksite and ensure that a program for prevention and control is put into place for all potential hazards.

- Provide a reliable system for employees to report conditions and situations, which appear hazardous to the appropriate person and timely.

- Encourage employees to use the established hazard reporting system(s) and guarantee a strict non-retribution policy for those employees, supervisors, and managers who do use the system(s).

- Establish a system of self-inspections and review the results periodically to ensure proper and timely hazard correction.

- Establish a plant preventive maintenance program to ensure proper care and functioning of equipment and facilities.

- Review accident reports to keep informed of accident causes and trends.

- Provide a medical program, emergency response and first aid facilities that are adequate for the size and facilities of the workplace.

- Require periodic drills to ensure that each employee knows what to do in case of emergency.

- Established training programs to improve the competency of all employees in recognizing and understanding hazards and how to protect themselves and others.

2C. Safety and Health Coordinator responsibilities

- Maintain safety and health expertise through training, reading, conferences, and use of experts from outside the workplace.

- Keep aware of and be able to interpret laws and standards dealing with employee risk reduction in your industry and with illnesses and injury record keeping.

- Act as the eyes, ears, and "conscience" of top management where employee safety and health is concerned.

- Develop a complete inventory of hazards and potential hazards and plan a program of prevention and control.

- Evaluate the plant preventative maintenance program's effectiveness in ensuring a safe and healthy workplace.

- Provide analysis for the design, purchase and/or use of new equipment, facilities, materials and the design of new processes in terms of hazard detection and subsequent plans for prevention or control.

- Provide technical assistance and support to production supervisors and employees in their safety and health activities under the safety and health program.

- Ensure that appropriate general plant safety and health rules are developed, communicated and understood.

- Assist in or oversee the development of a system for consistent and fair enforcement of the rules and safe work practices.

- Assist management in the provision of adequate personal protective, industrial hygiene, safety and fire prevention equipment.

- Inspect facilities to detect hazards that have “escaped” existing prevention and controls and hazards that have not been detected by other means.

- Oversee investigation of or investigate employee reports of hazards and respond to employee safety and health suggestions.

- Assist supervisors in investigating accidents and incidents such as property damage and “near miss” cases.

- Provide technical assistance to employees in the performance of their duties under the safety and health program.

- Assist in the development and provision of safety and health training to employees at all levels to ensure complete understanding of safety and health hazards and responsibilities for self-protection of others.

- Oversee, analyze, and critique periodic emergency drills to help improve worksite emergency readiness.

3C. Superintendents/Managers safety and health responsibilities

- Provide the leadership and positive direction essential in maintaining the safety and health policy as the major priority in all operations.

- Hold all subordinate supervisors accountable for all assigned safety and health responsibilities, including making sure that all safety and health polices, procedures and rules are complied with by the employees under their directions, and processing in-depth analysis of all occupational injuries and illnesses which occur.

- Actively participate in and support employee participation in safety and health program activities and follow up on recommendations made by any employee (or joint labor management) group operating under the safety and health program in an appropriate and timely manner.

- Make certain that all new facilities, equipment, materials and processes are analyzed for potential hazards before completion of design or purpose, that all potential hazards have been prevented or controlled before their introduction into the worksite, that tools and machinery are used as designed and that all equipment is properly maintained.

- Ensure that job hazard analyses are conducted periodically for all jobs, with particular influence on those known to be dangerous, in order to seek out and prevent or control newly discovered hazards.

- Make sure that employees know about and are encouraged to use hazard reporting and safety and health suggestion systems, that they are protected from harassment, that their counsels are heeded and that their ideas, when helpful and feasible, are adopted.

- Ensure that prompt corrective action is taken whenever and wherever hazards are recognized or unsafe acts are observed.

- Make sure that specific safe work procedures or rules to minimize injury cover all hazardous tasks.

- Provide all necessary safety and health equipment and protective devices and make sure they are understood and used properly.

- Ensure that all injured persons, regardless of how minor the injury, receive prompt and appropriate medical treatment.

- Ensure that all accidents and incidents are promptly reported, thoroughly investigated and properly recorded, and safe behavior award programs, if used, do not encourage under-reporting of any incident, which must be recorded on the OSHA log.

- Keep abreast of accident and injury trends and take proper corrective action, when needed, to reverse these trends.

- Ensure that all employees are physically qualified to perform their work.

- Make sure that all employees are trained and, when necessary, retrained to recognize and understand hazards and to follow safe work procedures for each hazardous job.

- Ensure that supervisors hold periodic safety and health meetings, to review accidents/incidents and analyze their causes, and to promote free discussion of hazardous work problems and possible solutions.

- Ensure that the safety "director" is used for assistance in promoting aggressive and effective safety and health programs.

- Help develop and implement emergency procedures and ensure that all employees have the opportunity to practice their emergency activities.

4C. <u>Supervisors</u> safety and health responsibilities

- Supervise and evaluate worker performance, considering each worker's safe and healthful behavior and work methods.

- Actively support employee participation activities under the safety and health program and participate as needed.

- Learn and keep up the knowledge and skills required to detect safety and health violations and other hazards such as improperly functioning machinery, tools or equipment.

- Ensure that the plant preventative maintenance program is being followed, and that repair and replacement needs found during those activities are tracked to completion.

- Investigate accidents thoroughly to determine how the procedure or condition can be "fool-proofed."

- Actively discourage "short cuts" and consistently and fairly enforce safe work procedures and safety and health rules.

- Provide continuing on-the-job training in safe work operations and, where necessary, personal protective equipment maintenance and use.

- Be personally scrupulous in following the safe work procedures and safety and health rules that apply to the area.

- Make sure each employee knows what to do in case of an emergency.

5B. Discussion of Management's Role in Safety and Health

1C. Facility manager's role in safety and health

Introduction. A sound, active safety and health program provides a means for determining the performance of an operation group or facility and the effectiveness of its programs. A successful program contains all the elements, which represent sound management theory: definition of the organization; delegation of authority and responsibility; establishment of goals and objectives, clearly stated and mutually accepted; requirement of accountability; and, initiation of control and feedB(A)ck systems.

Injury and illness statistics can be used effectively as feedB(A)ck: they are leading indicators of fundamental organizational problems. Unfortunately, they alone are not reliable tools for controlling safety and health program. Injuries usually occur randomly and the times of occurrences are unpredictable except in a very large sample. Also, a single facility usually provides too small a statistical sample to be used as a control tool. However, occurrence of injuries has a direct correlation to situations of injury potential, particularly unsafe acts. Some studies show that, on the average, one permanently disabling injury will occur for each 100 minor injuries or each 500 unsafe acts.

Therefore, management must direct its effort toward eliminating high injury-potential situations. Eliminating the causes of injuries is, in the long run, the only way to reduce the occurrence of injuries. Illness statistics are not as discrete as injury statistics, so management must be even more alert to potential causes of occupational illnesses.

Essential aspects of a sound safety and health program.

The first step in creating a sound safety and health program is for the management team to personally accept the responsibility for safety and health. Facilities, including structural features, equipment and the working environment, must be safe. Management must then insist that: (1) housekeeping be maintained at a high level; (2) safe working procedures are followed; (3) employees are alert and apply good judgment to the hazardous aspects of all tasks, even to those not covered by formal safety and health procedures.

A facility, which is safety constructed and maintained, is a highly visible sign of management's commitment to safety and health. To have a safe physical plant, members of management must ensure that applicable physical safety standards, such as MIOSHA, are met. Substandard facilities or equipment must be repaired properly. Each employee's safety suggestion or complaint (the great majority of which will concern the safety of the physical plant) must be given its due consideration and prompt reply.

The Facility Manager must insist on the employees' achieving a high level of housekeeping and require that all work and travel areas be free of hazards, all materials and supplies be stored in an orderly way, and all materials and supplies be clearly identified.

Regular job training must incorporate safety and health principles. Operating and mechanical work procedures should include key safety points and sound practices. Management must establish safe work procedures for routine and hazardous jobs, such as entering vessels, working on energized equipment, and breaking into pipelines containing hazardous materials.

For a facility to attain its safety and health goal, employees must understand the facility's safety and health philosophy, follow good work practices, be alert to the hazardous aspects of the job, and use good safety and health judgement when undertaking new tasks. Communication, training and involvement are essential to achieving a safety and health goal.

Responsibility and accountability.

The facility manager is responsible for the safety and health of the facility. The Manager is responsible not only to corporate management but also to the employees who have entrusted their safety and health to his/her direction. The execution of this responsibility is delegated to the staff, which must have the necessary authority to act.

The Facility Manager is accountable to the corporate manager for the safety and health performance of the facility. Safety and health performance is considered an important item in evaluating the person's capability as a manager. The Facility Manager, in turn, must hold all subordinates accountable for the safety and health performance of their departments.

In a large organization, the manager must delegate a major role in safety and health to the department heads. In smaller, less formal organizations, the manager will not need to delegate as extensively and should maintain closer personal control.

Since safety and health is a line function, the Facility Manager heads the Facility Management Safety Committee, the top of an interlocking committee structure extending through the complete line organization. The Chairman of the Management Safety Committee assures a continuing, vital and stimulating safety and health program, encouraging the participation of the staff in planning and execution. Visible, sincere concern for safety and health must be shown to set an example for all members of management. Safety and health must be established as the first order of business, and subordinates must be required to accept this philosophy.

The manager's supporting role includes involvement with communication, feedback, evaluation and planning. Regarding communications, he/she should be informed promptly of any serious occurrence. Safety and health must be the first order of business in any general staff meeting. The staff should make a brief safety and health status report to the manager the first thing in the morning or offer this report when and injury or unusual incident occurs, or when a safety and/or health accomplishment is made.

The manager must make regular, informal tours of the plant to observe safety and health conditions. When accompanied by the department head, the manager may make a more formal inspection of a specific department. Occasionally a formal or informal safety and health inspection of the plant should be made on other than the day shift, Monday through Friday. Although not expected to participate in departmental meetings, the manager should attend them occasionally. Finally, the manager should make individual safety and health contacts with subordinates and hourly employees. During these personal contacts, the manager must avoid bypassing the line organization or usurping their responsibilities. Any correction or formal safety or health action must be done through the line organization.

Feedback is essentially upward communication from the line organization to the manager. It involves formal reporting, written and oral, as well as informal reporting of information resulting from personal contacts with subordinates. In addition, statistical comparisons of injuries and unusual incidents can be used to develop information on trends. Unusual incidents are of particular value in this regard, because they occur less frequently than injuries and, therefore, provide a broader sampling of the safety and health climate.

When evaluating supervisory safety and health performance, managers should consider the following indicators of good safety and health performance:

1. The supervisors maintain a low injury and illness experience.

2. The supervisors maintain good housekeeping in each unit.

3. The supervisors approach safety and health problems positively and develop solutions and implement recommendations from safety and health activities and health professionals.

4. The supervisors cooperate with other groups in safety and health activities and projects.

5. The supervisors have original ideas for the safety and health program.

Indications of unsatisfactory safety and health performance include:

1. The supervisions quarrel with minor details of the safety and health program rather than carrying out the program.

2. The supervisors consider the safety and health program as somebody else's program, rather than they're own or the group's.

3. The supervisors tolerate unsafe acts from the employees.

4. The supervisors allow poor housekeeping in the area.

5. The supervisors fail to generate new ideas.

After evaluating the facility's safety and health performance, the manager can develop new plans for safeguards and the elimination of exposures. The safety and health plans should be both immediate and long range. Some examples of actions that can be incorporated into either short or long-term plans are:

1. To correct process hazards which develop through faulty design or frequent modification;

2. To develop a safety meeting topic schedule for use at departments meetings;

3. To review all safety work orders at staff meetings; and

4. To provide an approved training course for all operators of powered industrial trucks or other mobile equipment.

2C. Intermediate manager's role in safety and health

Introduction. While the overall policy and direction of the safety and health program must start with Executive Management, the effectiveness depends directly on the commitment and managerial skills of the line organization. Each member is actually a manager in his/her share of responsibility and is responsible for the safety and health of the personnel and the equipment assigned them.

Because safety and health is a good measure of performance, members of intermediate management should seize the opportunity of dealing effectively with safety and health to demonstrate their abilities as managers.

Goal of intermediate management's safety and health program.

The general goals of an intermediate member of management are identical to those of the Facility Manager. In addition, specific objectives should be assigned to each member to support general goals. For example, if the facility goal is to see that safe working procedures and practices within each department must be established to have a safe plant, it is important that these standards be developed with the participation of the line organization and safety and health department of the unit. Such participants will achieve a clear-cut understanding and acceptance of the safety and health program's goals. The use of a series of interlocking safety and health committees, starting with the Facility Manager's staff or the Management Safety Committee, provides for the participation at all levels.

After establishing acceptable levels for safety and health in the plant and in work practices, the intermediate manager must plan and implement activities to ensure compliance with these levels or standards on a continuing basis. Determining the degree of compliance requires a reasonable amount of time to ensure accuracy and thoroughness. Inspections, sample-type observations and other techniques may be used.

Deviations from the standards must be corrected and indicated corrections must be uniformly enforced and communicated, where applicable. For example, employees not wearing the required eye protection should be reminded of the unsafe practice, be told why compliance is important, and be informed that their compliance will be expected in the future. If three or four employees are found violating eye protection rules throughout the department, the intermediate manager might discuss the eye-protection requirements in safety meetings with all members of the department.

Responsibility and acceptability.

The importance of personal example increases with the supervisor's visibility, reaching it's peek at the level of first line supervision. Even more than the Facility Manager, the members of intermediate management must show their concerns for safety and health. These concerns must be sincere and continuous. In addition to personal safe conduct

on and off the job, safety and health must be set as the first order of business in all instances, and subordinates must be required to do likewise.

Intermediate management's involvement in safety and health.

Each member of intermediate management must be personally involved in making decisions and executing programs. Participation brings pride, accomplishment, and commitment to reaching the objectives. Obviously, the intermediate manager must delegate responsibilities and action.

On the other hand, a reliance on "management by exception" can be used only to a limited degree. Delegation without feedB(A)ck may be interpreted as lack of deep interest in the importance of safety and health. The member of intermediate management, who demands a report in production results after each shift but who requests a report in housekeeping and unsafe practices only once a month, weakens his/her safety and health effort. *Subordinates will attach importance to safety and health goals and activities in proportion to the continuing interest shown them by their supervisors*.

For example, the Facility Safety Engineer reports a hazard during a safety inspection or evaluation. One way to handle the report is for the superintendent to send it down the line with a notation that it be read and the violations corrected. A much better way would be for the superintendent's staff to discuss both the general and specific items, agree on a program of corrective action, and set dates for implementation. Until the tasks are completed, each subordinate should report back periodically on the group's action and results.

The intermediate manager has more opportunity than the Facility Manager to make personal observations and check the validly of reports about the effectiveness of the unit's safety and health performance. However, the evaluation of performance like that of the Facility Manager must include upward communication from his/her organization on each objective of the program, personal observations, and independent audits by outsiders.

It is important for the intermediate manager to remember that management's safety and health activities serve primarily to strengthen the role of first line supervisors in their leadership of employees. The safety and health program must be evaluated constantly to see that it, too, does the same.

3C. <u>First line supervisor's role</u> in safety and health

Introduction. All of the responsibilities and functions of the other members of management are related, in general, to first line supervisors. They are the contact through which the majority of management's communications flow. The following comments should be considered in a supervisory development program and in administrating the safety and health program.

Goals of the first line supervisor's safety and health program.

The first line supervisors' safety and health goals are specific: to see that safe working procedures are practiced, to maintain good housekeeping in their areas, to see that employees accept safety and health as their personal responsibility, and to insist on adherence to strict safety and health standards.

Responsibility and accountability.

The first line supervisor must do many of the things that have been described previously for the Facility Manager and members of intermediate management. The following details may be of significant help to first line supervisors in meeting their responsibilities.

To encourage their groups' acceptance of safety and health goals, they must present the specific goals in group meetings and individual contacts. This provides for two-way communication, with the supervisor acting as the head of the discussion group. It is important that the group, led by the first line supervisor, be carefully incorporated into the interlocking safety committee program.

There is no substitute for a periodic inspection to determine whether standard physical conditions exist. Either the supervisor or assigned employees can make the inspections. Checklists can be helpful by including items which have special potential for injury, such as walking surfaces, ladders, guardrails, guards on moving parts of equipment, electrical equipment and special safety equipment.

Maintaining a safe plant is absolutely necessary if the employee is to believe that management is sincere in their desire for good safety and health performance. Therefore, when substandard physical conditions are found, it is important that the areas be safeguarded until repair is made. In addition, initiating orders or requests for repairs promptly and communicating the status of the item to the employees is essential. The majority of employees' complaints or safety and health suggestions will relate to unsatisfactory physical conditions. It is important that members of supervision listen to each complaint or suggestion and give careful consideration to it, *even if ill founded*. Giving a prompt answer and taking action where indicated are equally important.

The first line supervisor must specifically define the standard of good housekeeping in order for employees to understand and accept it. One possible standard is:

> "An area must be cleaned from debris and unneeded materials. Materials and equipment needed must be stored away neatly in well-defined areas and in rows parallel to or perpendicular to fixed walls, roads or other suitable reference lines. There must be no wire, hose, hole in pavement or other obstacle, or hazard in walking areas unless protected by warning signs or barricades."

Recognizing substandard housekeeping conditions requires frequent inspections by the supervisors and assigned employees. Involving employees in detecting and correcting unsatisfactory housekeeping conditions will result in better housekeeping, which will prevent accidents. Maintaining satisfactory conditions daily is required if gains are to be made over a long period; periodic clean up alone will not suffice. Housekeeping is a visible indication to management and hourly employees' attitudes alike. The supervisor's standard of housekeeping has a major effect on his/her safety and health credibility.

Safe procedures must be established for all hazardous jobs. No one knows the details of jobs better than the first line supervisor and the employees. Therefore, their participation in either preparing or reviewing work procedures is essential. Since first line supervisors are the ones responsible for executing the work procedures safely, they are the ones in the best position to do the actual training and follow-up. However, they usually need instruction in how to train others.

The goal is for employees to understand the safety and health policies of the plant, practice good safety and health, be alert to the safety and health aspects of the job, and apply sound judgment to new tasks. Complying with established work procedures depends on three things: (1) the effectiveness of the employee's training; (2) the employee's interpretation of the expectations of his immediate supervisor; and, (3) the supervisor's effective observation of his employee. Plan for observation and practice observing employees regularly, in order to identify and correct unsafe work practices.

Deviations from safe work practices must always be corrected. Correction requires that the supervisor must first determine the reasons for the deviation and then act appropriately. Frequent causes for employees' deviation from safety and health rules include: not accepting established procedures, not understanding methods, lacking the necessary skill, or valuing shortcuts above the safety of the established method. Often, correction can be reinstruction if the employee is convinced of the supervisor's sincerity and of the importance of the compliance. The need for discipline is rare. In cases where it is necessary, it must be applied firmly and consistently.

Only through practice do employees become alert to the hazardous aspects of the jobs. Alertness to hazards can be developed by discussing the key safety and health points for established jobs and by training and analyzing hazards for new assignments.

Examples of activities that increase an employee's level of safety and health awareness are:

1. Helping to set standard work procedures and periodically reviewing them to keep them up-to-date.

2. Discussing safety and health matters with other employees in safety committee meeting led by the supervisors.

3. Carrying out inspections and reporting on safety and health equipment, housekeeping, unsafe conditions in the plant, hazards uncovered by an injury in another department, etc.

4. Submitting either oral or written safety and health suggestions. Publicizing the acceptance of successful suggestions provides recognition to the employee.

5. Management recognizing outstanding group performance.

6. Having the supervisor listen to employees sincerely and with respect for their points of view.

The first line supervisor's safety and health involvement.

To the employee, first line supervisors are the most important members of management, because they are the members of management directly in contact with the employee, and because they consistently make decisions that directly affect what the employee does. Therefore, first line supervisors' personal examples – their safe practices, their interest in the safety and health goals, and their insistence or lack of insistence on high safety and health standards – determine almost entirely the attitudes and performance of all employees. Their influence makes or breaks the safety and health program.

Unless first line supervisors feel that they are full-fledged members of the management team, their performance in safety and health may be seriously hampered. In most organizations, the authority of foremen is necessarily limited on major matters to initiation of requests or recommendations for action. This is particular true of major expenditures, major disciplinary actions, the selection and assignment of employees, etc. They may feel that they lack the authority commensurate with their responsibilities unless they participate in planning and decision making. Management should seek their recommendations on matters that affect their responsibilities. In addition, a first line supervisor may be particularly sensitive if by-passed by higher members of the line organization who deal directly with their employees. Every effort should be made to work through first line supervisors and, where that is impossible, to keep them well informed.

First line supervisors are generally promoted employees with limited formal education, compared to others in the management structure. It is important that they receive training in how to carry out their duties, including such things as conducting safety meetings, doing the necessary record keeping, making housekeeping inspections, conducting job safety analyses, and giving job training to their employees.

Because of their interfacing position between management and the employees, first line supervisors may be burdened with a heavy flow of communications, paper work, follow-up, repair, training, and miscellaneous duties. Unless their workload is carefully

controlled, they may feel overburdened and frustrated. This is particularly true in relation to the volume of paper work. If supervisors are overloaded, they devote their efforts only to those areas of responsibility that they believe their superiors consider urgent. Supervisors will forgo safety and health for production if they believe getting out the product is really all that the management wants.

2A. Employee Involvement

1B. Why should employees be involved?

- Close contact with hazards
- Value as problem solvers
- Improved support
- Value of group decisions
- More involvement means better work

2B. What can employees do to help?

- Committee participation
- Classic joint labor-management committees
- Other joint committees
- Central safety committee
- Special function committees
- Quality circles
- Conducting site inspection
- Committee inspections
- Safety observers
- Routine hazard analysis
- Developing or revising site safety rules
- Training other employees

- New employee orientation
- Ongoing periodic training
- Program presentation
- Accident or incident investigations
- All-pervasive participation

3B. Different approaches: Union verses non-union sites

1C. Examples of non-union sites employee involvement

A textile manufacturer with over fifty plants, with employee populations of 18 to over 1200, has established joint safety and health committees on all shifts at its facilities. All members are provided with hazard recognition training and conduct monthly inspections of their facilities.

A small chemical plant with 85 workers has involved employees in safety and health activities through an accident investigation team and a Safety and Communications Committee, which consists of four hourly and three management employees. The team investigates all accidents and incidents that occur in the facility. The Committee conducts routine site inspections, reviews all accident and incident investigations, and advises management on the full range of safety and health related matters.

Involvement at a farm machinery manufacturer with 675 employees includes active membership on several committees and sub-committees, which change on a voluntary rotational basis. These committees conduct routine plant-wide inspections and accident investigations. Employees are also involved in conducting training on a variety of safety and health related topics. Maintenance employees are revising the preventative maintenance program.

A large chemical company with 2300 employees on the site has implemented a dynamic safety and health program, which encourages 100 percent employee participation. Its safety and health committee is broad and complex, with each department having its committee structure. Sub-committees deal with specific issues such as off-plant safety, training, contractors, communication, and process hazard analysis, management and emergency response. Coordination is handled by the plant-wide committee, which has representatives from all department committees included in its membership. All committee members are heavily involved in safety and health-related activities, including performing area inspections and accident investigations. They also act as channels for other employees to express their concerns. Members go through extensive training for accident investigations, area assessments, and interpersonal skills.

A shipbuilding and repairing facility with 7600 employees has established an Employee/Management Safety and Health Task Force, whose membership is equally represented by management and hourly employees. The task force addresses current safety and health issues and works toward resolving problems and implementing improvements in the safety and health inspections, accident and incident investigations, and reporting employees' concerns.

2C. Examples of union site employee involvement

Involvement at a paint manufacturing facility with 72 employees works primarily through the Safety Committee. Three members of the committee are hourly union employees, and three are salaried employees. Involvement including participation in committee meetings, holding monthly plant inspections and making recommendations to management for safety and health related improvements.

An oil refinery with almost 400 employees involves its employees in a variety of ways. They act as safety and health monitors assigned to preventative maintenance contractors. They develop and revise safe work procedures. They are part of the team that develops and reviews job safety analyses. They are work group safety and health auditors.

A chemical company with 1200 employees has found numerous ways to include its employees in the site's safety and health program. The Safety and Health Committee includes equal labor and management membership. This committee is involved in a variety of activities including monthly plant inspections, accident investigations and examination of any unsafe conditions in the plant. Employees are also involved in process and operations review teams safety inspection teams and quality teams. Two hourly employees' full-time responsibilities are to monitor the safety and health performance of on-site contractors.

An electronics manufacturer with almost 5800 employees has established a joint committee consisting of seven management and eight hourly employees. They inspect pre-selected areas of the facility monthly, maintain records of these inspections, and follow-up to ensure that any hazards identified are properly addressed. They investigate all accidents that occur in the facility. The committee members have been trained extensively in hazard recognition and accident investigation.

4B. What management must do to help employees?

- Develop sincere conviction regarding employees' safety and health
- Show commitment through leadership

- Require safety and health as a condition of employment
- Get many employees involved
- Delineate clear expectations
- Provide adequate training and resources
- Take their work seriously
- Give them credit

5B. How to get employee involvement started?

1C. Meet with Employees

- Meet with employees in one large group (if not unwieldy) or groups by shift or craft, depending upon the nature of your worksite.
- Explain the safety and health policy of your worksite and the objectives that you hope to achieve.
- Explain that you want employees to help with the safety and health program and ask for their suggestions.
- Try to use as many of the reasonable suggestions as possible in some visible way.

2C. Formal means of involvement

- If the group(s) of employees have not suggested a formal means of establishing their involvement, form a joint committee, which is large enough to represent different parts of your worksite but not so large that it is unwieldy.
- Try to have an equal number of management and non-supervisory employees on the committee.
- Management members should have enough “clout” to get things done.
- The safety and health staff should be staff to the committee.
- If your worksite has a collective bargaining agent, allow that organization to select the method of choosing non-supervisory members.

- If your work site is not unionized, you may chose to get your employees' advice on how to decide the non-supervisory employees the will serve on the committee. Do not hold an election because of the danger of violating the National Labor Relations Act.

3C. How to use the involved employees

- The examples in this manual provide ideas that have worked for other employers, but the most common function is for employees to do routine physical inspections, following a checklist, on a regular schedule.

- Employees will need appropriate training to do the job well. (They should not be asked to do anything that you do not want to have done well.)

- They should be expected to help with decisions regarding hazard corrections as well as hazard identification.

- You may also wish to ask the committee to study one or two very difficult safety and/or health problems that management has not been able to resolve. If so, you must demand and give their suggestions respectful consideration.

- Once the group is established and successful, they will be able to help think of other ways employee involvement could be beneficial, to the quality of your worksite safety and health program.

6B. Employees' safety and health responsibilities

- Learn and understand the rules, follow them, and avoid "short cuts."

- Review and ask questions if you do not understand the safety and health educational material posted on bulletin boards or distribute to work areas.

- Be individually responsible to keep yourself, fellow employees, and equipment free from mishaps.

- Be certain that you completely understand instructions before starting the work and avoid "short cuts" from safe work procedures.

- If any doubt exists about the safety and/or healthfulness of doing a job, stop and get instructions from your supervisor before continuing the work.

- Offer safety and health suggestions when such suggestions would reduce risk to workers.

- Get involved in the employee participation system and support other employees in their assigned roles under the safety and health program.

- Make sure you understand exactly what your responsibilities are for each different kind of emergency situation that could arise.

- Know how and where needed medical help may be obtained.

- Report all accidents as well as unsafe conditions and acts to your supervisor or use the system set up to allow reporting elsewhere.

3A. Work Site Hazard Analysis

1B. Ergonomic Analysis

1C. What Is Ergonomics?

Ergonomics is the science of fitting workplace conditions and job demands to the capabilities of the working population. January 1997, NIOSHA published the *Elements of Ergonomics Programs, A Primer Based on Workplace Evaluations of Musculoskeletal Disorders*. The primer provides basic information that will be useful for designing effective programs to prevent work-related musculoskeletal disorders. Musculoskeletal disorders are some of the most prevalent and costly safety and health problems in the modern workplace. However, the primer does not attempt to provide a "one size fits all" design, because there is no overriding solution to musculoskeletal disorders. Each industry and workplace is unique in itself. Instead, it defines the key elements of an effective program in a format that allows the user to tailor the information to a particular work setting or situation.

Seven key elements comprise a seven-step "pathway" for evaluating and addressing musculoskeletal concerns in an individual workplace. They are:

One. Looking for signs of a potential musculoskeletal problem in the workplace, such as frequent worker reports of aches and pains, or job tasks that require repetitive, forceful exertions.

Two. Showing management commitment in addressing possible problems and encouraging employee involvement in problem-solving activities.

Three. Offering training to expand management and employee ability to evaluate potential musculoskeletal problems.

Four. Gathering data to identify jobs or work conditions that are most problematic, using sources such as OSHA logs, medical records, and job analyses.

Five. Identifying effective controls for tasks that pose a risk of musculoskeletal injury, and evaluating these approaches once they have been instituted to see if they have reduced or eliminated the problem.

Six. Establishing health care management to emphasize early detection and treatment of musculoskeletal disorders for preventing impairment and disability.

Seven. Minimizing risk factors of musculoskeletal disorders when planning a new work procedure or operation: It is less costly to build good design than retrofit.

2C. Analysis Checklists

Below, six analysis checklists are provided to help pinpoint the root cause(s) of musculoskeletal disorders. They are:

- General Ergonomic Risk Analysis Checklists
- Workstation Checklist
- Task Analysis Checklist
- Handtool Analysis Checklist
- Material Handling Analysis Checklist
- Computer Workstation Analysis Checklist

Note: For additional information, please contact:

- *The ASU Group* 1-800- 968-3767
- *NIOSH* 1-800- 35-NIOSH

"Ergonomics is fitting the workplace to the worker."

General Ergonomic Risk Analysis Checklist *(5-A)*

Check on the line (__) only if you answer the question "yes." A "yes" response indicates that ergonomic risk factor might be present that requires further analysis.

Manual Material Handling

__ Is there lifting of loads, tools, or parts?
__ Is there lowering of tools, loads, or parts?
__ Is there overhead reaching for tools, loads, or parts?
__ Is there bending at the waist to handle tools, loads, or parts?
__ Is there twisting at the waist to handle tools, loads, or parts?

Physical Energy Demands

__ Do tool and part weigh more than 10 lbs.?
__ Is reaching greater than 20 inches?
__ Is bending, stooping, or squatting a primary task activity?
__ Is lifting or lowering loads a primary task activity?
__ Is walking or carrying loads a primary task activity?
__ Is pushing or pulling loads a primary task activity?
__ Is reaching overhead a primary task activity?
__ Is stair or ladder climbing with loads a primary task activity?
__ Do any of the above tasks require five or more complete work cycles in a minute?
__ Do employees complain that rest breaks, and fatigue allowances are insufficient?

Other Musculoskeletal Demands

__ Do manual jobs require frequent, repetitive motions?
__ Does work require frequent bending of the neck, shoulder, elbow, wrist, & fingers?
__ For seated work, does reach for tool and material exceed 15 in. from employee?
__ Is the employee unable to change his/her position often?
__ Does the work involve forceful, quick, or sudden motions?
__ Does the work involve shock or rapid buildup of forces?
__ Is finger-pinch gripping used?
__ Do job postures involve sustained muscle contraction of any limb?

Computer Workstation

__ Do operators use computer workstation for more than 4 hours a day?
__ Are there complaints of discomfort from those working at these stations?
__ Is the chair or desk nonadjustable?
__ Is the display monitor, keyboard, or document holder nonadjustable?
__ Does lighting cause glare or make the monitor screen hard to read?
__ Is the room temperature too hot or too cold?
__ Is there an irritating vibration or noise?

Environment

__ Is the temperature too hot or too cold?
__ Are worker's hands exposed to temperatures less than 70 degrees Fahrenheit?
__ Is the workplace poorly lit?
__ Is there glare?
__ Is there excessive noise that is annoying, distracting, or producing hearing loss?
__ Is there upper extremity or whole body vibration?
__ Is air circulation too high or too low?

General Workplace

__ Are walkways uneven, slippery, or obstructed?
__ Is housekeeping poor?
__ Are stairs cluttered or lacking railings?
__ Is proper footwear worn?

Tools

__ Is the handle too small or too large?
__ Does the handle shape cause operator to bend the wrist in order to use the tool?
__ Is the tool hard to access?
__ Does the tool weigh more than 9 lbs.?
__ Does the tool vibrate excessively?
__ Does the tool cause excessive kickback to the operator?

Gloves

__ Do the gloves require the worker to use more force when performing job tasks?
__ Do the gloves provide inadequate protection?
__ Do the gloves present a hazard of catch points on the tool or in the workplace?

Administrative

__ Is there little worker control over the work process?
__ Is the task highly repetitive and monotonous?
__ Does the job involve critical tasks with high accountability and no room for error?
__ Are work hours and breaks poorly organized?

Workstation Analysis Checklist *(5-C)*

"No" responses indicate potential problem areas that should receive further investigation.

		Yes	No
1.	Does the **workspace** allow for full range of movement?	___	___
2.	Are **mechanical aids** and equipment available?	___	___
3.	Is the **height** of the **work surface** adjustable?	___	___
4.	Can the **work surface** be **tilted or angled**?	___	___
5.	Is the workstation **designed** to reduce or eliminate:		
	Bending or twisting at the wrist?	___	___
	Reaching above the shoulder?	___	___
	Static muscle loading?	___	___
	Full extension of the arms?	___	___
	Raised elbows?	___	___
6.	Are the workers able to vary **posture**?	___	___
7.	Are the hands and arms free from **sharp edges** on work surfaces?	___	___
8.	Is an **armrest** provided where needed?	___	___
9.	Is a **footrest** provided where needed?	___	___
10.	Is the **floor surface** free of obstacles and flat?	___	___
11.	Are cushioned **floor mats** provided for employees required to stand for long periods?	___	___
12.	Are **chairs or stools** easily adjustable and suited to the task?	___	___
13.	Are all task elements **visible** from comfortable positions?	___	___
14.	Is there a **preventive maintenance program** for mechanical aids, tools, and other equipment?	___	___

Task Analysis Checklist *(5-D)*

"No" responses indicate potential problem areas that should receive investigation.

		Yes	No
1.	Does the **design** of the primary task reduce or eliminate:	___	___
	Bending or twisting of the back or trunk?	___	___
	Crouching?	___	___
	Bending or twisting the wrist?	___	___
	Extending the arms?	___	___
	Raised elbows?	___	___
	Static muscle loading?	___	___
	Clothes wringing motions?	___	___
	Finger pinch grip?	___	___
2.	Are **mechanical devices** used when necessary?	___	___
3.	Can the task be done with **either hand**?	___	___
4.	Can the task be done with **two hands**?	___	___
5.	Are **pushing or pulling** forces kept minimal?	___	___
6.	Do the workers judge required forces acceptable?	___	___
7.	Are the **materials**:		
	Able to be held without slipping?	___	___
	Easy to grasp?	___	___
	Free from sharp edges and corners?	___	___
8.	Do containers have good **handholds**?	___	___
9.	Are **jigs, fixtures, and vises** used where needed?		
10.	As needed, do **gloves** fit properly and made of the proper fabric?	___	___
11.	Does worker avoid **sharp edges** when performing task?	___	___
12.	When needed, are push **buttons** designed properly?	___	___
13.	Do the job tasks allow for ready use of **PPE** that may be required?	___	___
14.	Are high **rates of repetitive** motion avoided by:		
	Job rotation?	___	___
	Self-pacing?	___	___
	Sufficient pauses?	___	___
	Adjusting the job skill level of the worker?	___	___
15.	Is the employee **trained** in:		
	Proper work practices?	___	___
	When and how to make adjustments?	___	___
	Recognizing signs and symptoms of potential problems?	___	___

Hand Tool Analysis Checklist *(5-E)*

"No" responses indicate potential problem areas that should receive further investigation.

		Yes	No
1.	Are tools **selected** to limit or minimize:	___	___
	Exposure to excessive vibration?	___	___
	Use of excessive force?	___	___
	Bending or twisting the wrist?	___	___
	Finger pinch grip?	___	___
	Problems associated with trigger finger?	___	___
2.	Are tools **powered** where necessary and feasible?	___	___
3.	Are tools evenly **balanced**?	___	___
4.	Are heavy tools **suspended or counterbalanced** to facilitate use?	___	___
5.	Does the tool allow adequate **visibility** of the work?	___	___
6.	Does the tool grip or handle prevent **slipping** during use?	___	___
7.	Are tools equipped with textured, non-conductive handle **material**?	___	___
8.	Are there different **handle sizes** to fit a wide range of hand sizes?	___	___
9.	Is the tool **handle designed** not to dig into the palm of the hand?	___	___
10.	Can the tool be used safely with **gloves** (not too tight or loose)?	___	___
11.	Can either hand use the tool?	___	___
12.	Can both hands use the tool?	___	___
13.	Is thee a **preventive maintenance program** to keep tools operating as designed?	___	___
14.	Have employees been **trained**:		
	In the proper use of tools?	___	___
	When and how to report problems with tools?	___	___
	In proper tool maintenance?	___	___

Materials Handling Analysis Checklist *(5-F)*

"No" responses indicate potential problem areas that should receive investigation.

		Yes	No
1.	Is the **weight** to be lifted judged acceptable by the workforce?	___	___
2.	Are the **materials moved** over minimum **distances**?	___	___
3.	Is the **distance between** the object load and the body minimized?	___	___
4.	Are **walking surfaces**:		
	Level?	___	___
	Wide enough?	___	___
	Clean and dry?	___	___
5.	Are **objects**?		
	Easy to grasp and stable?	___	___
	Able to be held without slipping?	___	___
6.	Are there **handholds** on these objects?	___	___
7.	When required, do **gloves** fit properly?	___	___
8.	Is the proper **footwear** worn?	___	___
9.	Is there enough **space** to maneuver?	___	___
10.	Are **mechanical aids** used whenever possible?	___	___
11.	Are **working surfaces** adjustable to the best handling heights?	___	___
12.	Does **material handling avoid**:		
	Movements below knuckle height & above shoulder height?	___	___
	Static muscle loading?	___	___
	Sudden movements during handling?	___	___
	Twisting at the waist?	___	___
	Extended reaching?	___	___
13.	Is **help** available for heavy or awkward lifts?	___	___
14.	Are high **rates of repetition** avoided by:		
	Job rotation?	___	___
	Self-pacing?	___	___
	Sufficient pauses?	___	___
15.	Are pushing or pulling forces reduced or eliminated?	___	___
16.	Does employee have an unobstructed **view** of handling the task?	___	___
17.	Is there a **preventive maintenance** program for equipment?	___	___
18.	Are workers **trained** in correct handling and lifting procedures?	___	___

Computer Workstation Analysis Checklist *(5-G)*

"No" responses indicate potential problem areas that should receive investigation.

		Yes	No
1.	Does the workstation ensure proper worker **posture**, such as:		
	Horizontal thighs?	___	___
	Vertical lower legs?	___	___
	Feet flat on floor or footrest?	___	___
	Neutral wrists?	___	___
2.	Does the **chair**:		
	Adjust easily?	___	___
	Have a padded seat with a rounded front?	___	___
	Have an adjustable backrest?	___	___
	Provide lumbar support?	___	___
3.	Are height and tilt of the **work surface** on which the keyboard is located adjustable?	___	___
4.	Is the **keyboard** detachable?	___	___
5.	Do **keying** actions require minimal force?	___	___
6.	Is there an adjustable **document holder**?	___	___
7.	Are armrests provided where needed?	___	___
8.	Are **glare** and **reflections** avoided?	___	___
9.	Does the **monitor** have brightness and contrast controls?	___	___
10.	Do the operators judge the **distance** between eyes and work to be satisfactory for their viewing needs?	___	___
11.	Is there sufficient **space** for knees and feet?	___	___
12.	Can workstation be used for either **right- or left-handed** activity?	___	___
13.	Are adequate **rest breaks** provided for task demands?	___	___
14.	Are high **stroke rates** avoided by:		
	Job rotation?	___	___
	Self-pacing?	___	___
	Adjusting the job to the skill of the worker?	___	___
15.	Are employees **trained** in:		
	Proper postures?	___	___
	Proper work methods?	___	___
	When and how to adjust their workstations?	___	___
	How to seek assistance for their concerns?	___	___

2B. How to analyze a process:

"Process" Self-Evaluation Questionnaire

What kind of process is it? (Mechanical? Chemical? Biological?)

What is the product or service?

What is the rate of production?

What raw materials will be used? And how much?

Will there be intermediate products? And their quantities?

Will there be waste materials that will be a problem because of their toxicity and/or their quantity?

Are there inherent hazards in this process that indicate that you should look for a safer way to produce the product?

What kinds of equipment are used in the process?

Is there sufficient and reliable monitoring and control equipment? Is it fail-safe?

What are the various workers' roles?

Where they work directly with substances and equipment, are their operations as safe as possible?

Are there points in the process where workers' exposure to hazards could be reduced?

Could any emergency situations develop? How many unexpected events could happen at the same time and what would be the result?

3B. How to analyze a job or task for training:

Job Breakdown Worksheet

Job or Task _____ Supervisor _____
Employee _____ Date ____ - ____ - ____

STEPS of job or task	HOW to do steps safely	WHY do steps safely
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____
5. _____	5. _____	5. _____
6. _____	6. _____	6. _____
7. _____	7. _____	7. _____
8. _____	8. _____	8. _____
9. _____	9. _____	9. _____
10. _____	10. _____	10. _____

Supervisor's Suggested Training Method:

1. **Tell** trainee what to do.
2. **Show** the trainee how to do it.
3. **Watch** the trainee do it.
4. **Retrain** the trainee as needed.
5. **Follow up** at a later time.

"An ounce of prevention is worth a pound of cure." Ben Franklin

4B. How to investigate an accident?

Introduction: *Accidents Are Costly to the U.S. Economy & People!*

1. **Total Cost in 1996** $121 billion

- Cost per worker $960
- Cost per death $790,000
- Cost per disabling injury $26,000

2. **Total Lost Time in 1996** 125,000,000 days
   - Due to injuries 80,000,000 days
   - Due to injuries in prior years 45,000,000 days
3. **Fatal Occupational Injuries in 1995**
   - Agriculture 752
   - Mining 156
   - Construction 1,033
   - Manufacturing 700
   - Transportation & Public Utilities 879
   - Wholesale & Retail Trades 925
   - Services 861
   - Government 772

   6,210 Grand Total

4. Non-Fatal Occupational Injuries and Illnesses Involving Lost Days in 1995

Exposure Or Event:	Private Industry	Agri-culture	Mining	Cons-tuction	Manu-facturing	Trans. & Public Utilities	Trades	Service
Overexertion	27.4%	20%	26.4%	22.5%	25.9%	28.5%	26.2%	32.2%
Lifting	16.4	11.2	10.1	13.0	14.4	17.1	17.8	18.7
Contract with Object / Equip.	27.5	32.2	38.5	33.0	33.9	22.4	29.5	18.6
Struck by object	13.2	15.9	20.8	17.1	14.4	10.2	15.5	9.2
Struck against object	7.0	8.1	7.7	8.0	7.6	6.3	7.7	5.7
Caught in equipment	4.6	5.1	8.4	4.0	8.3	3.3	4.1	2.0
Fall same level	11.0	8.4	9.7	7.4	7.4	9.6	13.8	14.0
Fall lower level	5.1	6.4	8.3	11.9	3.1	6.9	4.4	4.4
Hazardous sub.	5.1	5.0	5.8	4.4	5.4	3.5	5.3	5.5
Repetitive motion	4.0	2.1	0.8	1.9	8.4	2.0	2.5	3.1
Transportation	3.6	5.5	2.4	3.2	1.7	8.7	3.4	3.7
Slips, trips	2.9	3.5	1.1	2.6	2.4	3.9	2.9	3.1
Assaults, violence	1.1	0.1	no data	0.1	0.1	0.4	0.9	3.2
Fires, explosions	0.2	0.2	no data	0.4	0.2	0.1	0.2	0.2
All others	12.1	16.1	7.0	12.6	11.5	14.0	10.9	12.0
Totals	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

What Is an Accident?

1. An accident is any **unexpected** **or** **unintended occurrence** that involves injury, occupational illness, fire, vehicle damage, crime, or property loss.

2. Also, an accident is a **job hindrance**. Any interruption or interference with the safe and orderly progress of the job is a hindrance. Accidents are interruption and, therefore, job interference.

Why Control Accidents?

1. **People**: employer, employee, family, friends

2. **Policy**: firm, government, and employee

3. **Profit**: firm and employee

How to Control Accidents.

1. **Adopt** this formula: Controlling ***OPERATIONS*** = Controlling ***ACCIDENTS***

2. **Analyze** operations ("EMP"):

   - **E**quipment
   - **M**aterials
   - **P**eople

3. **Address** accidents and near misses as *warning signs or indicators* of problems with the EMP.

How to Conduct an Accident Investigation.

Goal: Not to determine fault,
But to prevent recurrence

Agent: Someone familiar with the equipment, materials, and people. Typically, the best person is the Department manager or Safety Coordinator.

Time: ASAP

Method: The four basic steps of an accident investigation are:

1. Describe **what** happened;
2. Define **why** it happened;
3. Determine the **recommendation(s)** needed; and
4. Decide on a **follow-up** plan.

Sample Incident Investigation Form

(*Supervisor and employee should complete this form together. If needed, use back.*)

I. Employee Information:

Employee: _____ (More than one __) Employee's SS # _____- __ - _____
Employee's number: _____ Sex: M __ F__ Phone: _____ - _____ - _____
Employee experienced? Yes __ No __ Immediate supervised? Yes_ No _

Description of Incident:

Who: *Witness(es)* Name _____ Phone _____ -- _____ -- _____
Name _____ Phone _____ -- _____ -- _____
Statement: _____
_____

What happened according to employee:
_____
_____

When: ***Date*** ___ -- ___ -- ___ Start or end of shift (circle one) Yes __ No __
Time ___:___ a.m. or p.m. (circle one) After lunch, meeting, etc. Yes __ No __

Where:

		Yes	No		Yes	No
Building _____	*Rain*	___	___	*Road signed closed*	___	___
Job site _____	*Snow*	___	___	*Traffic present*	___	___
Elevation: Yes __ No __	*Ice*	___	___	*Vehicle*: cab, box,	___	___
Excavation: Yes __ No __	*Trees*	___	___	entering or exiting	___	___
Other _____	*Other* _____			*Other* _____		

How: Supervisor and employee should question each of the twelve items under "EMP" below, to determine what "unsafe action(s)" and/or "unsafe condition(s)" that contributed to the incident.

Was **Equipment** involved…	Were **Materials** involved…	Were **People** involved…
1. Selected properly?	5. Selected correctly?	9. Selected properly?
2. Arranged properly?	6. Placed correctly?	10. Placed properly?
3. Used properly?	7. Handled correctly?	11. Trained properly?
4. Maintained properly?	8. Processed correctly?	12. Lead properly?

Suggestions to avoid or reduce recurrence?
1) _____
2) _____
3) _____

Follow-up: **Who** will do **What** by **When**? _____
_____

(*Continue: Incident Investigation Report, Page 2)*

Employee's Signature: _____ Date: _____

Supervisor's Signature: _____ Date: _____

Department Head's Signature: _____ Date: _____

Human Resources Signature: _____ Date: _____

For H/R use only:

	Yes	No
Medical treatment:	___	___
First Aid:	___	___
Lost Days:	___	___
OSHA Recordable	___	___

Additional Comments:

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

Safety Committee Organization & Operation

"To look is one thing.
To see what you look at is another.
To understand what you see is another.
To learn from what you understand is something else.
But to act on what you learn is all that really matters."

-- Winston Churchill

A safety committee provides a chance to act on acquired knowledge by establishing (1) goals, (2) an annual agenda, and (3) a meeting format.

1. Establish goals based on loss trends.

a. **What** are the three major injury trends?

_____ = _____ %

_____ = _____ %

_____ = _____ %

b. **Where** (which departments) do the trends occur?

_____ = _____ %

_____ = _____ %

_____ = _____ %

2. *Establish an annual safety committee agenda.*

Date	Training Topic(s)	Training Materials	Area(s) to Tour	Trainer(s)	Notes
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

Notes: _____

3. *Establish a safety committee meeting format*

a. Select a Safety Director: _____

b. Select a Standard Meeting Time:

- Use the Same -- Week -- Day -- Time
- Example: -- 3rd -- Monday -- 1:00 p.m.
- Our meetings will be the _____ (week of the month) on _____ (day) at ___ :___ a.m. -- p.m.

c. Select a Frequency:

Monthly ____
Bimonthly ____
Quarterly ____

d. Select a Maximum Length: ____ minutes (We suggest 60minutes.)

e. Stick with a *Standard Agenda:

1) Old Business
2) New Business
3) Accident Investigation
4) Safety Education
5) Safety Tour
6) Accountability or Assignments

*See the next page for a detailed Safety Committee Meeting Agenda.

SAFETY MEETING AGENDA – Minutes Form

Date: _____ Time: _____ Topic: _____
Chairperson: _____ Members/Visitors: _____

OLD BUSINESS
a. Time: 1-5 minutes
b. Tasks: (1) Review last meeting. (2) Review accidents.
Notes. _____

SUGGESTIONS
a. Time: 1-5 minutes
b. Tasks: (1) Evaluate suggestions. (2) Award top suggestions.
(3) Communicate results. (4) Make assignments.
Notes. _____

ACCIDENT INVESTIGATION
a. Time: 15-20 minutes
b. Tasks: (1) List all accidents between meetings.
(2) Investigate based on frequency and severity.
(3) Goal: Don't place blame but prevent recurrence.

	Date:	**Cause:** Unsafe Condition / Action	**Correction:** Who, What & When
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

TRAINING
a. Time: 10-15 minutes
b. Tasks: (1) State topic.(2) Discuss & make assignments.
Notes:_____

SAFETY TOUR
a. Time: 10-15 minutes
b. Tasks: (1) Tour ½ of time. (2) Discuss & make assignments.
Notes: _____

ASSIGNMENTS
a. Time: No specific allotted
b. Tasks: (1) Unless life threatening, limit recommendations to two or three, cost-driven recommendations.
(2) Date & time of next meeting (_____).
Notes._____

6B. Key participants in the safety program

Below, list the key people that will participate directly in your safety and health program.

- **Top Management**, Name & title,
  to whom the Safety Director reports: _____ , _____

- **Safety & Health Director** or Coordinator: _____

- **Safety committee members**:

  a. **Management member(s)**: _____ Phone:_____
  _____ Phone:_____

  b. **Department managers & their alternates:** _____ _____
  _____ _____
  _____ _____
  _____ _____
  _____ _____
  _____ _____
  _____ _____
  _____ _____

  c. **Volunteer members:** _____ _____
  _____ _____
  _____ _____
  _____ _____

- **Purchasing agent**: _____ Phone:_____

- **Safety equipment suppliers**: _____ Phone:_____
  _____ Phone:_____
  _____ Phone:_____

- **Insurance representative**: _____ Phone:_____

- **OSHA Representative**: _____ Phone:_____

- **Other**: _____ Phone:_____

7B. Safety Coordinator evaluation checklist

How effectively does your Safety Coordinator . . .	***Poor*** **(0)**	***Fair*** **(1)**	***Good*** **(3)**	***Prime*** **(4)**
1. Know his/her responsibilities?	___	___	___	___
2. Plan and organize the safety program?	___	___	___	___
3. Set achievable goals?	___	___	___	___
4. Monitor progress?	___	___	___	___
5. Balance responsibilities?	___	___	___	___
6. Detect hazardous actions & conditions?	___	___	___	___
7. Eliminate, avoid and/or prevent hazards?	___	___	___	___
8. Enforce safe practices?	___	___	___	___
9. Conduct regular safety meetings?	___	___	___	___
10. Conduct scheduled safety inspections?	___	___	___	___
11. Investigate accidents and near misses?	___	___	___	___
12. Demonstrate safe behavior?	___	___	___	___
13. Communication with others?	___	___	___	___
14. Motivates others?	___	___	___	___
15. Solve problems?	___	___	___	___
16. Train employees?	___	___	___	___
17. Work within the safety budget?	___	___	___	___
18. Recognize accomplishments?	___	___	___	___
19. Develop his/her leadership?	___	___	___	___
20. Develop the ability of safety team members?	___	___	___	___

Total Score:_____ **Comments:** _____

4A. Hazard Prevention & Control Programs

1B. What is an inspection?

The term “inspection” is used to cover many kinds of actions that involve looking closely at something to see if it meets requirements.

The term “regular site inspection” means a general inspection of every part of the work site to locate any hazards to workers that need correction. The term also includes routine industrial hygiene monitoring and sampling.

2B. Facility inspection checklists – in brief and detail

Facility Inspection Checklist – In Brief

	Satis-factory	Not Satis-factory	Comments
1. Environment:	____	____	_____
2. Hazardous supplies/material:	____	____	_____
3. Shop & related equipment:	____	____	_____
1. Power source equipment:	____	____	_____
2. Electrical equipment:	____	____	_____
3. Hand tools:	____	____	_____
4. PPE:	____	____	_____
5. Personal service and first aid facilities:	____	____	_____
6. Fire protection and extinguishing equipment:	____	____	_____
7. Walkways and roadways:	____	____	_____
8. Elevators, stairs & man-lifts:	____	____	_____
9. Working surfaces:	____	____	_____
10. Material handling equip:	____	____	_____
11. Transportation equipment & construction machines:	____	____	_____
12. Warning and signaling devices:	____	____	_____
13. Containers:	____	____	_____
14. Storage facilities and areas: (indoor and outdoor)	____	____	_____
15. Structural openings:	____	____	_____
16. Building and structures:	____	____	_____

Facility Inspection Checklist – In Detail

1. **Environment:**	Yes	No	N/A	Comments
Illumination	___	___	___	
Dusts	___	___	___	
Gases	___	___	___	
sprays	___	___	___	
vapors	___	___	___	
fumes	___	___	___	
noise	___	___	___	
heat	___	___	___	
cold	___	___	___	

2. **Hazardous supplies and materials:**			
Explosives	___	___	___
Flammables	___	___	___
Acids	___	___	___
Caustics	___	___	___
Toxic	___	___	___

3. **Production and related equipment:**			
Mills	___	___	___
Shapers	___	___	___
Presses	___	___	___
Borers	___	___	___
Lathes	___	___	___
Grinders	___	___	___
Saws	___	___	___
Drills	___	___	___
Tire changer	___	___	___
Ladders	___	___	___

4. **Power source equipment:**			
Steam/gas/oil boiler	___	___	___
Electrical motors	___	___	___
Power washer	___	___	___

5. **Electrical equipment:**			
Switches	___	___	___
Fuses	___	___	___
Breakers	___	___	___

(Continue: Facility Inspection Checklist)

Outlets	___	___	___
Cables	___	___	___
Extension cords	___	___	___
Fixture	___	___	___
GFCI	___	___	___
Junction boxes	___	___	___

6. Hand tools:

Wrenches	___	___	___
Screwdrivers	___	___	___
Hammers	___	___	___
Chisels	___	___	___
Power tools	___	___	___

7. PPE:

Hard hats	___	___	___
Safety glasses	___	___	___
Safety shoes	___	___	___
Chaps	___	___	___
Respirators	___	___	___
Ear plugs/muffs	___	___	___
Face shields	___	___	___
Gloves	___	___	___

8. Personal service and first aid facilities:

Drinking fountains	___	___	___	
Wash basins	___	___	___	
Soap dispensers	___	___	___	
Safety showers	___	___	___	
Eyewash fountains	___	___	___	
First aid supplies	___	___	___	
Stretchers	___	___	___	
Life safety	___	___	___	(egress, fire protection, occupancy, utilities, etc.)

9. Fire protection and Extinguishing equipment:

Alarms	___	___	___
Water tanks	___	___	___
Sprinklers	___	___	___
Extinguishers	___	___	___

Hydrants	___	___	___
Hoses	___	___	___
Fire doors	___	___	___
Fire department	___	___	___
Storage facilities	___	___	___

10. Walkways and roadways:

Ramps	___	___	___
Docks	___	___	___
Decks	___	___	___
Sidewalks	___	___	___
Aisles	___	___	___
Vehicle ways	___	___	___

11. Elevators, electrical stairs, & man-lifts ___ ___ ___

12. Working surfaces:

Ladders	___	___	___
Scaffolds	___	___	___
Catwalks	___	___	___
Platforms	___	___	___
Sling chairs	___	___	___
Desk heights	___	___	___
Handrails & gates	___	___	___
Stairs	___	___	___

14. Material handling equipment:

Cranes	___	___	___
Dollies	___	___	___
Conveyors	___	___	___
Hoists	___	___	___
Forklifts	___	___	___
Chains	___	___	___
Ropes	___	___	___
Slings	___	___	___
Blade jacks	___	___	___
Back aids	___	___	___
Floor jacks	___	___	___

(Continue: Facility Inspection Checklist)

15. Transportation equipment:

Automobiles	___	___	___
Asphalt equipment	___	___	___
Trucks	___	___	___
Front-end loaders	___	___	___
Graders	___	___	___
Mowers	___	___	___
Snowplows	___	___	___
Paving equipment	___	___	___
Motorized carts	___	___	___
Buggies	___	___	___
Bull-dozers	___	___	___

16. Warning and signaling devices:

Sirens	___	___	___
Crossing lights	___	___	___
Blinkers lights	___	___	___
Warning signs	___	___	___
Barricades	___	___	___

17. Containers:

Scrap bins	___	___	___
Disposal receptacles	___	___	___
Carboys	___	___	___
Barrels	___	___	___
Drums	___	___	___
Gas cylinders	___	___	___
Solvent cans	___	___	___
Parts cleaning tanks	___	___	___

18. Storage facilities and areas: (indoor and outdoor)

Bins	___	___	___
Racks	___	___	___
Lockers	___	___	___
Cabinets	___	___	___
Shelves	___	___	___
Tanks	___	___	___
Closets	___	___	___
Rooms	___	___	___

(Continue: Facility Inspection Checklist)

Restroom	___	___	___
Office	___	___	___
Paint room	___	___	___

19. Structural openings:

Windows	___	___	___
Doors	___	___	___
Stairways	___	___	___
Shafts	___	___	___
Pits	___	___	___
Floor openings	___	___	___

20. Building and structures:

Floors	___	___	___
Roofs	___	___	___
Walls	___	___	___
Fencing	___	___	___
Sheds	___	___	___
Tanks	___	___	___
Fuel pumps	___	___	___
Confined spaces	___	___	___

3B. Job site inspection checklist: Pre-job and Job Site

PRE-JOB SAFETY AUDIT

Location _____ Building Number _____ Date _____

Contract Title _____ Job/Contract Number _____

Supervisor _____ Cell/Phone _____ Pager _____

1. Emergency Procedures for Accidents

- Phone numbers: Work site _____ Other _____
- Phone(s) location _____
- Medical service location _____
- First aid kit location _____
- Fire Dept. location _____
- Trained personnel _____

2. Emergency Planning

- Means of alarm _____ _____
- Alert/evacuation _____ _____
- Assembly area _____ _____
- All clear _____ _____
- Permits revoked Yes ____ No ____ _____
- Exit location _____ _____
- Shower location _____ _____
- Eye wash location _____ _____

3. Personal Protective Equipment

- Safety glasses: Worn Yes __ No __ or carried on person Yes __ No __ N/A __
- Hard hats: Yes __ No __ N/A __
- Fall protection Yes __ No __ N/A __
- Safety boots/shoes: Yes __ No __ N/A __
- Hand Yes __ No __ N/A __
- Proper clothing Yes __ No __ N/A __
- Respirators Yes __ No __ N/A __
- Other _____ Yes __ No __
- Other _____ Yes __ No __

4. Workplace Hazards

- Welding, burning, spark-producing equipment _____
- Vessel entry _____
- Street(s) blocked _____
- Railroad clearance _____
- Power line clearance _____
- Hot work clearance _____
- Disposal/barricade tag and/or permit _____
- Equipment safety (cranes, excavation, etc.) _____
- Hazardous waste _____
- Flammable liquids and gasses _____
- Sidewalk(s) blocked _____
- Pedestrian _____
- Excavation _____
- Materials Handling _____
- "Miss Dig" _____

5. Regulation Concerns

- DOT _____
- DEQ _____
- OSHA _____
- MSHA _____
- Other _____ Other _____

6. Occupational Health Concerns

- Chemicals _____
- MSDS location _____
- Hazardous Waste _____
- Physical exposures (heat, noise, radiation, etc.) _____
- Other Occupational Health exposures _____

7. General Concerns

- Lunchroom location _____ _____
- Restroom location _____ _____
- Smoking area _____ _____
- Phone location _____ _____
- Pager location _____ Cell phone _____
- Fire extinguisher location _____ _____
- Safety information posted _____ _____
- Safety Program in place Yes __No __
- Person in charge _____

8. Present at Meeting & Inspection:

Employee and Company Names	Employee and Company Names
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Comments: _____

_____

JOB-SITE SAFETY INSPECTION

General Contractor _____ Job Site _____ Date __/__/___
Nature of Work _____ Crew size _____ Crew leader _____
Supervisor _____ Auditor_____ Sign _____

Grading: Satisfactory = plus [**+**] Unsatisfactory = minus [**--**]; Not applicable = [**/**]

1. **Facilities:**

   a. MSDS [ ]
   b. Safety & Health Protection posters [ ]
   c. Trailer permit [ ]
   d. Butt cans [ ]
   e. Fire extinguisher(s) [ ]
   f. Covered trash cans [ ]
   g. Pre-job Safety Audit [ ]
   h. Housekeeping [ ]

2. **Equipment:**

   a. **Ladders:**
      Company name & I.D. [ ]
      Safety feet [ ]
      Extension ladder 3-feet
      above work surface [ ]
      & tied off [ ]
      Structural condition [ ]
      Stepladder open in use [ ]
      & top 2-runs not used [ ]
      One person on ladder [ ]
      Barricaded as needed [ ]

   b. **Electrical:**
      Cords, wiring, lights [ ]
      GFCI [ ]
      Machinery guards [ ]
      PPE [ ]
      Dead-man hitch [ ]
      Lockout/tagout [ ]

   c. **Scaffold & elevated work platforms:**
      Egress & Ingress [ ]
      2-inch planks & cleats [ ]
      Horizontal & diagonal
      braces on roll platform [ ]
      Casters locked if used [ ]
      Scaffold checklist used [ ]

   d. **Materials:**
      State certification cards [ ]
      Medical surveillance [ ]
      Training documented [ ]
      Air monitoring recorded [ ]
      Daily/weekly logs [ ]

   e. **Vehicles:**
      Elevation equipment [ ]
      Trucks, etc._____[ ]
      Excavation equipment [ ]

3. **General Conditions:**

   a. **Housekeeping:**
      Material storage [ ]
      Trip hazards [ ]
      Work areas [ ]
      Flammables [ ]
      Combustibles [ ]
      Trash Removal [ ]
      Haz-Materials [ ]

   b. **Permits/tags:**
      Issued & posted [ ]
      Hot-work/PRCS [ ]

   c. **PPE:**
      Head [ ]
      Hands [ ]
      Eyes [ ]
      Feet [ ]
      Face [ ]
      Arms [ ]
      Legs [ ]
      Respiratory [ ]
      Fall protection [ ]

4. **Personal Safety Knowledge:**

   a. **Meetings:**
      Right to know [ ]
      Committees [ ]
      Tool-box talks [ ]
      Task analysis [ ]

   b. **Hand tools:**
      Safe [ ]
      Suitable [ ]

   c. **Hazard/training:**
      Pre-job training [ ]
      Emergencies [ ]
      Fire [ ]
      Vehicles [ ]
      Chemicals [ ]
      Pedestrians [ ]
      Contractors [ ]
      Traffic control [ ]
      Spill clean-up [ ]
      Medical [ ]
      Lifting, fall, cut [ ]

Comments: _____
_____
_____

4B. Vehicle Inspection Checklist

Instructions: "No commercial motor vehicle shall be driven unless the driver thereof shall have satisfied himself/herself that the following parts and accessories (marked below by an asterisk) are in good working order, nor shall any driver fail to use or make use of such parts and accessories when and as needed." (FMCSR §392.7) *The Maintenance Department should receive a copy of the pre-trip (and/or post-trip) report(s).*

Driver's Name: _____ Intended Use: _____
Vehicle Type & No.: _____ Length of Use: _____

		Satis-factory	*Not* Satis-factory	Pre-Trip	Post-Trip
Engine Compartment:	Oil level	___	___	___	___
	Coolant level	___	___	___	___
	Belts	___	___	___	___
	Hoses	___	___	___	___
	Battery	___	___	___	___
	Windshield fluid*	___	___	___	___
	Transmission fluid	___	___	___	___
	Brake fluid	___	___	___	___
Exterior of Vehicle:	Lights: device/reflector*	___	___	___	___
	Tires*	___	___	___	___
	Windshield*	___	___	___	___
	Wipers	___	___	___	___
	Exhaust	___	___	___	___
	Mirrors*	___	___	___	___
Inside of Vehicle:	Brake: service/park/etc.*	___	___	___	___
	Lights & Turn Signal*	___	___	___	___
	Instruments	___	___	___	___
	Mirrors*	___	___	___	___
	Horn*	___	___	___	___
	Windshield Wipers*	___	___	___	___
	Seat Belts	___	___	___	___
	Heat & Defrost	___	___	___	___
	Fire Extinguisher*	___	___	___	___
	First Aid Kit*	___	___	___	___
	Emergency Equipment*	___	___	___	___
	Brakes*	___	___	___	___
	Steering*	___	___	___	___
	Coupling Device*	___	___	___	___

Defects Noticed: 1. _____ 3 _____
2. _____ 4. _____

Pre-trip Driver's Signature: _____ Date: _____
Post-Trip Driver's Signature: _____ Date: _____
Mechanic's Remarks: _____

5B. Regular inspection guidelines

1C. How often should inspection be conducted?

1E. Medium and large work sites should be inspected at least annually. Some part of the inspection should occur each month.
2E. Smaller fixed work sites might not need to have general inspections every month. But their inspections should cover the whole site at one time.

2C. What should be inspected?

1D. Facilities
2D. Job sites
3D. Vehicles and construction machinery

3C. Who should inspect?

1D. Supervisors: his/her area at the beginning of each shift
2D. Employees: as part of committee involvement
3D. Safety committee: part of the facility or job site each meeting

4C. What training should inspectors have?

1D. Recognition of unsafe actions
2D. Recognition of unsafe conditions
3D. Significance of behavioral safety
4D. Data collection and analysis

6B. Employee reports of hazards (The reports listed below follow.)

1C. Initial Hazard Report – Completed by employee & supervisor
2C. Follow-up Hazard Report
3C. Safety or Health Problem Report
4C. Employee Report of Hazard – Lack of sufficient action
5 C. Hazard Tracking Report
6C. Hazardous Process Analysis Worksheet

Hazard Report -- Completed by Employee

EMPLOYEE: _____

HOUR: _____

DATE: _____

DEPARTMENT WHERE HAZARD OBSERVED: _____
_____

HAZARD OR PROBLEM: _____
_____

SUGGESTED ACTION TO TAKE: _____

Employee: Complete and Give to Supervisor

SUPERVISOR: _____

DEPARTMENT: _____

DATE: _____

ACTION TAKEN: _____
_____
_____

Supervisor: Complete and Give to Manager

DATE: _____

REVIEW - COMMENTS: _____
_____

_____
Signature of Manager

HAZARD REPORT -- Follow-up

(Can be used as part of the preceding form or separately in the case where employees are not required to put the report in writing.)

HAZARD: _____

Possible Injury or Illness: _____

Exposure: _____ Frequency: _____

Duration: _____

Interim Protection Provided: _____
_____

Corrective Action Taken: _____
_____

Follow-up Check Made on _____ (date)

Any additional action taken?

Signature of Manager or Supervisor: _____

Date: _____

Three-month follow-up check made on _____ (date

Is corrective action still in place? _____ Yes _____ No

SAFETY OR HEALTH – Problem Report

1. Date: _____

2. Description of Problem (including, if applicable, exact location): _____
_____
_____

3. Note any previous attempt to notify on this problem and to whom:_____
_____
_____

Submitted By (optional) Name _____

Safety Department Findings: _____
_____

Action Taken: _____
_____

Safety Committee Review: _____
_____

All actions completed by (date) _____

EMPLOYEE REPORT OF HAZARD – To Initiate Action

NOTE: This form is provided for the assistance of the employee making the report and does not constitute the exclusive means for notification of hazards.

I believe that a condition or practice at the following location is a job safety or health hazard.

Is there an immediate threat of death or serious physical harm? Yes ___ No ___

Provide information that will help locate the hazard(s) such as building or area of building or the supervisor's name. _____
_____
_____

Describe briefly the hazard that you believe to exist and approximately the number of employees exposed to it. _____
_____
_____

If this hazard has been called to anyone's attention, as far as you know, please provide the name of the person or committee notified and the approximate date. _____
_____
_____

Signature (optional) _____

Typed or printed name (optional) _____

Date _____

Management evaluation of reported hazard(s): _____
_____
_____

Final action taken: _____
_____
_____

All actions completed by _____ (date) Initials _____

HAZARD CORRECTION – Tracking Form

Instructions: Under the column headed "System," note how the hazard was found, using "Insp." for inspections, "ERH" for employee reports of hazards, or "Acc." for accident/incident investigations.

Under the column headed "Hazard Description," take as many lines as you need to describe the hazard. Under the third column, provide the name of the person who has been assigned correction responsibility. Under the fourth column, list any interim action to correct the hazard and the date. Under the last column, list the completed corrective action and the date that the final corrective action was taken.

System:	Hazard Description:	Assigned to:	Interim Action with Date:	Completed Action with Date:

HAZARDOUS PROCESS ANALYSIS -- Worksheet

1. Name the process: _____

2. Give the date operations began: _____

3.Write a short description of the process. _____
_____
_____

4. Conduct an overview, write a narrative and attach it to this form.
   Date completed? _____

5. Prepare process flow chart and attach.
   Date completed? _____

6. For each step in the process as shown on the flow chart, identify and record on the reverse side of this form each:

   a. Hazardous substance,

   b. Piece of equipment which presents a hazard, and

   c. Employee operation which may be hazardous.

7B. Specific hazard prevention and control programs

1C. Suggested priority of hazard controls

- First: Eliminate hazard through design controls
- Second: Engineering controls
- Third: Ergonomic controls
- Fourth: Administrative controls
- Fifth: PPE controls
- Sixth: Positive reinforcement controls
- Seventh: Positive discipline

2C. List of specific hazard control programs (See APPENDIX for details.)

a. Ariel Lift Platforms Safety
b. Asphalt Plant Safety
c. Battery Storage Safety
d. Bloodborne Pathogens Program Safety
e. Bush Chipper Safety
f. Building Maintenance
g. Chain Saw Safety
h. Compressed Air Safety
i. Confined Space Entry Safety
j. Crane Operation Safety
k. Custodial Safety
l. Electrical Hazard Safety
m. Excavation Safety
n. Fall Protection Safety
o. Fire Safety
p. Flammable and Combustible Liquids Safety
q. Fuel Island Safety
r. Flammable Gas Safety
s. Guarding Safety
t. Hand Tool Safety
u. Home Safety
v. Hazard Communication (Right-To-Know) Safety
w. Hazard Energy (Lockout/Tagout) Safety
x. Heat Stress Safety

y. Heavy Equipment Operation Safety
z. Hoisting and Rigging Safety
aa. Housekeeping Safety
bb. Logging Safety
cc. Materials Handling Safety
dd. Metalworking Safety
ee. Noise Control Safety
ff. Office Safety
gg. Oil Storage Safety
hh. Overhead Crane Safety
ii. Personal Protective Equipment (PPE) Safety
jj. Power Equipment Safety
kk. Power Industrial Lift Truck Safety
ll. Repair Garage Safety
mm. Respiratory Protection Program Safety
nn. Sign Shop Safety
oo. Spray Painting Safety
pp. Storage Safety
qq. Tree Pruning and Trimming Safety
rr. Welding and Cutting Safety
ss. Woodworking Safety
tt. Work Zone Safety (See Construction)

3C. Role of discipline in the workplace

The type and severity of disciplinary action should be appropriate for the severity and frequency of the violation. Below are a series of questions designed to help you develop a disciplinary system that best meets the needs of your workplace. You may have already addressed the first two areas when you developed safe work procedures for different jobs at your workplace. If you have not yet developed these procedures, you will want to do so before developing a disciplinary system. Other workplace problems, such as attendance and attitude, are equally important but are not addressed here.

I. Operation: What key operation or operations occur at your workplace? What equipment is used? By whom? What materials are used, and by whom? Are there any hazards associated with the use of the equipment or the materials?

2. Procedures: What are the key types of jobs at your workplace? What do most people do in the course of their work? What is the most efficient way for them to perform their jobs? (Note: Job Hazard Analysis, covered by OSHA publication 3071, is essential to define this.) What is the safest way for them to perform their jobs?

3. Problems: What would happen if a job or a procedure were not done safely? Exactly what would happen if an employee performed in an unsafe or unhealthy manner? What would happen if all employees did the same thing? How serious would the

consequences be? Would the unsafe action or behavior affect just one employee, or all employees?

4. *Correction:* For each type of safety and health violation you have identified, what kind of corrective action seems appropriate? What would you do for a second offense, or for repeated violations of the same rule? Should warnings be oral or written? How long a suspension is warranted for what type of violation? Are there any actions that should automatically result in termination?

For this last stage of developing your disciplinary system, you may find it helpful to develop a grid to identify corrective actions for different types of violations and their frequencies. In the example on the next page, you see listed on one side a few types of safety problems, and, across the top, their frequency. You can fill in each box with the type of corrective action (i.e., oral warning, written warning, re-instruction, suspension, and termination) that you consider appropriate.

	First Offense	*Second Offense*	*Repeated violations*
Unsafe Work Habits	_____	_____	_____
Refusal to Follow Safety Instructions	_____	_____	_____
Unsafe Actions that Jeopardize Self & Others	_____	_____	_____

Developing General Workplace Rules

You may find it useful to make a list of the kinds of violations that you consider major or serious, and another list of safety and health or other behaviors that, while not as serious, are still not acceptable.

Major offenses:

1. Actions which demonstrate clear carelessness
2. Horseplay in work areas or otherwise creating
3. Actions that demonstrate clear carelessness leading to an accident to oneself or others
4. Tampering with machine safeguards, removing and others
5. Not wearing required PPE

6. Theft of company property

7. Provoking or engaging in an act of violence against another person on company property

8. Insubordination to proper authority

9. Use of alcohol, illegal or non-prescription drugs that results in unsatisfactory performance

10. Major traffic violations while using a company vehicle; and,described briefly below

11. Other major violations of company rules or policies

General offenses:

1. Wasting time;

2. Minor traffic violations while using company vehicles;

3. Creating unsafe or unsanitary conditions or poor housekeeping habits;

4. Threatening an act of violence against another person while on company property;

5. Misrepresentation of facts or falsification of company records;

6. Unauthorized use of company property;

7. Time and attendance problems; and

8. Other violations of company policy and rules.

You would then link each ripe of offense to a structured procedure for corrective action. Your goal here is to make sure that the corrective action is appropriate for the seriousness of the violation, that employees are given the opportunity to correct their own behavior, and that the system that directly links violations with corrective actions is used.

Written Warning:

- No safety glasses
- Horseplay
- Unsafe work habits
- Violation of other safety or health rule or regulation

Suspension: (e.g., 8-hours without pay)

- Three or more safety or health violations of the same type
- General overall record of unsafe practices
- Refusal to follow safety and health guidelines or instructions

Termination:

- Excessive and repeated safety and/or health violations
- Purposefully ignoring safety and/or health rules
- Unsafe actions that jeopardize the safety or health or others
- General disregard for safety and health of oneself and others

Step Discipline System

First violation:

Instruction to discuss violation, proper procedures, and the hazards they control; notation in supervisor's file.

Second violation:

Re-instruction and put a notation in employee's personnel file.

Third violation:

Written warning describing the violation and actions that will be taken if it reoccurs.

Fourth violation:

Final warning might include suspension.

Fifth violation:

Discharge

NOTE: The use of these corrective procedures obviously will vary with the nature of the problem and the frequency with which it occurs. Violations of rules are generally considered more important than other employee problems, but each requires correction. Keep in mind (and tell your employees) that your goal is to control unsafe acts and conditions in order to prevent accidents.

4C. Preventive maintenance

a. Each Road Commission member should develop a preventive maintenance schedule.

b. The PM schedule should include the following:
   - Maintenance needs survey
   - Maintenance timetable determination
   - Use of posted or computerized schedule
   - Maintenance documentation
   - Preventive maintenance summary

5C. Emergency preparation:

Emergency Operation Plan -- Overview

Records:	· Required contents of fire emergency and prevention plans required by any MIOSHA safety standard.
	· Fire prevention plan in writing (Oral for less than 10 employees).
Inspections:	· Maintain components of means of egress in operable condition.
	· Maintain fire retardant properties of paints
Tests:	· None.
Training:	· Sufficient number of persons to assist in safe and orderly evacuation of employees.
	· Each employ to whom the fire emergency plan applies; when plan is developed, when employee's responsibilities or required actions under the plan change, when plan is changed, at orientation.
	· Inform employees of hazards to which they are exposed.
	· Each employee at initial assignment on those parts of the fire prevention plan that are applicable to the employee.

EMERGENCY OPERATION PLAN

Introduction

When the unexpected happens, the ability of people to respond in a quick and coordinated manner is vital. Prompt action will diminish, if not eliminate, the potential for serious personal injury, property damage, and business interruption. We encourage you to carefully consider your role in each aspect of the Emergency Operation Plan presented below. Perhaps, your life or the life of someone else might depend on you! Thank you.

Every responsible firm should have an Emergency Operation Plan ("EOP"). The *Federal* Department of Labor and OSHA requires all employers to have a written EOP. The *Emergency Management Division, Michigan State Police,* recently published a *Site Emergency Planning Workbook (SP-25),* to help small and large firms develop an EOP. In general, your EOP should be written and available for employee training and review. However, employers with ten-or-fewer employees may communicate the EOP orally. The EOP should cover all potential emergencies that might affect employees and visitors. Some examples of basic EOPs are:

- Tornado
- Winter Storms
- Medical Emergencies
- Fire
- Bomb Threats

Purposes of an "EOP"

The purpose of this EOP is to provide immediate, coordinated evacuation procedures for common emergencies, actual or potential. Specifically, this EOP has been developed:

1) To provide a uniform basis for a systematic and orderly evacuation;

2) To establish means of egress for common emergencies;

3) To institute alarm and announcement systems; and

4) To organize fire prevention and extinguishing procedures.

Potential Consequences of Common Emergencies

	Prohibited Access	*Disrupted Power*	*Ruptured Gas Main*	*Downed Elec. Line*	*Water Damage*	*Mildew & Mold*	*Smoke Damage*	*Chemical Damage*	*Conta-mination*
Earthquake	•	•	•	•	•			•	•
Fire	•	•			•	•	•	•	
Flood	•	•		•	•	•		•	•
Hazardous Materials	•								
Hurricane	•	•	•	•	•			•	•
Nuclear Attack	•	•	•	•	•		•	•	•
Power Interrupt or Surge	•	•		•		•	•	•	
Sabotage/ Terrorism	•	•	•	•			•	•	•
Severe Storm	•	•		•	•				
Tornado	•	•	•	•	•		•	•	•
Winter Storm	•	•		•					
Volcano	•	•		•					

Do Your Employees Know the Basics about an EOP?

	Yes	No
1. The company has an EOP for fire, tornado, medical, severe weather, bomb threat, etc.	___	___
2. Location of the written E.O.P.	___	___
3. The minimum requirements for the E.O.P.:	___	___

__ Potential consequences of emergencies

__ Escape procedures and routes (1st & 2nd) assignments

__ Procedure for those who stay and "shut-down" critical operation

__ Procedure to account for employees

__ Rescue and medical duties

__ Preferred means to report a fire and other emergencies

__ Names or titles of employees to contact for further information

4. Emergency chain of command	___	___
5. Early warning system or siren	___	___
6. Emergency announcement	___	___
7. Shut-down procedures	___	___
8. Personal protection equipment and procedures	___	___
9. Security measures to take	___	___
10. Post-disaster procedures	___	___
11. Location of first aid supplies	___	___
12. Required training: initial and refresher	___	___
13. Stay at home policy and procedure	___	___
14. Rights and Responsibilities under OSHA	___	___
15. Correct assembly area for the emergency	___	___

6C. Medical program and first aid:

OCCUPATIONAL HEALTH GUIDE TO MEDICAL SERVICES AND FIRST AID FOR GENERAL INDUSTRY

Michigan Occupational Health Standards administered by the Department of Public Health (MIOSHA) include requirements for medical services and first aid. The requirements are summarized and guidelines for the consulting physician and employer are as follows:

Employers' Responsibilities

The employer must ensure the ready availability of medical personnel for advice and consultation in matters of employee health. [Rule 4401(l)]

The necessity for consultation is determined by the types of hazards (chemical, physical) found in the workplace and an on going analysis of MIOSHA Log 200 Injury and Illness recordkeeping, workers' compensation data, and workplace safety and health surveys.

Michigan Occupational Health standards require that first aid care be available to employees during regular working hours. However, they do not necessarily require first aid facilities in all places of employment. The standards state:

In the absence of an infirmary, clinic or hospital in near proximity to the workplace, the employer must ensure the availability of adequately trained personnel to render first aid and provide first aid supplies approved by the consulting physician. [Rule 4401(2)]

The department's interpretation of "near proximity" is within 10 minutes travel time. The interpretation of "near proximity" in the case of permit required confined space rescue is within 4 minutes due to the health hazards posed by asphyxiation.

The standards require special first aid facilities and supplies consistent with the hazards of the workplace. Examples of such special requirements are:

- Good facilities for quick drenching or flushing of the eyes and body within the work area where exposure to injurious corrosive chemicals may occur. [Rule 4401(3)]. Corrosive materials are those with a pH of 4.0 or less or 9.0 or more. Consult labels or material safety data sheets for your chemical's corrosiveness. To be in compliance, eyewash station must be plumbed or must be able to deliver .4 gallons of water for 15 minutes (6 gallons). ANSI standard Z-358.1-1990, Emergency Eyewash and Shower Equipment describes suitable facilities.

- First aid equipment must be available for all employees engaged in welding, cutting and brazing. [Rule 3240(5)(n)]

Medical surveillance programs are required by health standards for open surface tank and chromic acid operations and for specific substances such as asbestos, vinyl chloride, fourteen identified carcinogens, and all MIOSHA single substance "expanded" standards (i.e., lead, benzene).

Guidelines for First Aid Programs

When an employer decides that first aid can be met by a clinic or emergency treatment center in near proximity rather than on-site, they must recognize that for life to be sustained after a serious injury, breathing and circulation must be started and bleeding stopped immediately. Accordingly, all persons are urged to obtain basic training in first aid and cardiopulmonary resuscitation (CPR). Off-the-job benefits from this training should not be overlooked in assessing its cost-benefits.

When it is determined in consultation with medical personnel that first aid is to be rendered at the workplace, the following guidelines are suggested:

1. Personnel

a. A professional person or trained first aid provider who is on the premises must be designated during each scheduled work shift to administer first aid. (Do not forget to provide a qualified alternate on sick and vacation days of the primary designee.)

b. A trained first aid provider is a person who has a valid certificate in first aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified. Currently, the American Red Cross re-certification requirements are every **three-years for First Aid** and every **year for CPR**. (Note: The *American Heart* and the *National Safety Council* require CPR re-certification every two-years.)

c. The person administering first aid should be authorized to take all necessary steps to secure further medical treatment for the injured person, if required by the nature of the injury or illness.

d. A supervisor should be responsible for periodic inspection of first aid facilities and supplies and prompt replenishing of necessary supplies.

2. Bloodborne Infectious Disease Program

Employees with assigned first aid duties are required to be protected by compliance with the MIOSHA Bloodborne Infectious Disease rules. The employer must develop a written exposure control plan that covers:

- exposure determination
- universal precautions
- regulated waste disposal
- laundry

- engineering controls
- work practices
- personal protective equipment
- housekeeping
- vaccination & post exposure follow-up
- communication of hazards to employees
- recordkeeping
- training

Occupational Health handout OH-823 provides a model for the written program for employees with limited (i.e., first aid) exposures.

If first aid is a "collateral duty." For example, a production employee who may, on occasion, be called upon to provide first aid as a trained first aid team member, the employer may postpone the hepatitis B vaccination until the first time the employee performs first aid on another person where blood or OPIM are present.

3. First Aid Facilities and Supplies

a. The size of your firm, the types of hazards and exposures, past experience and the degree of sophistication in your first aid program will have an impact on your selection of facilities.

   Items to consider include:

   - separate room
   - examination lamp
   - cot
   - stretcher
   - examining table

   This analysis should include consultation with the employer's medical advisor.

b. Michigan Occupational Health Standards for General Industry require that potable water be provided.

c. The general lighting level at the first aid table, shelf or desktop should be a minimum of 50 foot-candles. Auxiliary and emergency lighting should be considered.

d. First aid facilities must be kept clean per the bloodborne infectious disease rule.

e. There should be a minimum of one first aid cabinet/kit in an identifiable first aid area. The first aid cabinet/kit should be located in an identified, accessible area. It should be convenient to a hand washing sink with hot and cold running water, sanitary soap dispenser, waste receptacle with biohazard label and cover.

f. Remote locations or assigned workplaces which cannot be effectively served from a first aid cabinet, first aid room, or medical department; including a vehicle operated regularly on public thoroughfares, may require provision of a first aid kit.

The first aid area or workplace should be posted with a distinctive notice of ambulance, hospital, physician, names and telephone numbers to be called at the time of an emergency.

h. The first aid cabinet or room should contain first aid instructions and a means of recording first aid treatment and disposition. The medical advisor or the worker's compensation insurance carrier will usually recommend such treatment records.

   These records cannot be substituted for injury and illness records required by the Michigan and/or United States Department of Labor.

i. Again, your size, type of work, past experience, and physician consultation must guide your selection of number of kits, placement, inspection and re-supply and the types of first aid supplies to stock.

   The American National Standards Institute (ANSI) Z308.1-1978 "Minimum Requirements for Industrial Unit-Type First Aid Kit" lists the types of first aid supplies **recommended,** but does not recommend quantities.

   - adhesive bandages (various sizes)
   - antiseptic solution
   - ammonia inhalant
   - mild soap
   - antiseptic swabs
   - elastic bandage
   - gauze pads (various sizes)
   - metal splints
   - gauze bandage
   - aluminum splint
   - triangular bandage
   - tourniquet
   - scissors
   - forceps
   - tweezers
   - eye dressing
   - cleansing tissue
   - eyewash solution
   - burn treatments

   Quantities should prevent exhausting any single item based on frequency of use, inspection and replenished. Failure to maintain appropriate first aid supplies when there is no clinic, infirmary or hospital in "near proximity" is a citable MIOSHA violation.

   Note: This guide is intended for the benefit of the public **and may not contain** all

of the information pertinent to a specific situation. For further information, consult the Standards or Occupational Health Division:

Occupational Health Division
7150 Harris Drive
P.O. Box 30649
Lansing, Michigan 48909-8149
Telephone: (517) 322-1608

First Aid -- Suggested Disaster Supply Kit

Assemble supplies that you might need in an evacuation. Store them in an easy-to-access and easy-to-carry container, such as a backpack or duffel bag.

Items to Consider:

__ Supply of water (one gallon per person per day)
Notes: Store water in sealed unbreakable containers; identify the storage date; and replace water every six months
__ Supply of non-perishable high-energy food (e.g., granola bars, raisins, and peanut butter) and a manual can opener
__ Changes of clothing, rain gear, and shoes
__ Blankets and/or sleeping bags
__ First aid kit and prescription medications if applicable
__ Extra pairs of glasses or contacts if applicable
__ Battery-powered radio, NOAA weather radio, flashlight, and plenty of batteries
__ Credit cards and cash
__ Extra set of keys: building, locked rooms, sprinkler system, doors, and vehicles
__ List of company physicians
__ List of important information: style and serial of medical devices (such as pacemakers), insurance company, police/fire (or 911), and others
__ Special items for infants, elderly or disabled people
__ Copy of the complete Emergency Operation Plan, including first aid treatments
__ Class ABC, 10 lb., portable, fire extinguisher
__ Commercial extension cord and electric light
__ Emergency flares

Name(s) of person in charge on each shift:

1st Shift _____
2nd Shift_____
3rd Shift _____

Suggested First Aid Kits

Standard:

OSHA, 1910.151(a), requires companies with two-or-more employees to own and maintain a physician-approved first aid kit appropriate for the number and type of personnel employed. Employers should instruct employees regarding the use of first aid supplies. In addition, employers should keep records to prove that first kits are replenished regularly.

Contents:

The contents of a first aid kit should be "appropriate for the number and type of employees." However, MIOSHA recently published a list of suggested supplies for the first aid kits of most firms (BSR – OH – 951). For a copy of MIOSHA's suggested first aid supplies, call (571) 322-1809. Also, consider the following *guidelines* for a "General" and "Bloodborne Pathogens" first aid kits:

General First Aid Kit:

90	Sheer and plastic bandages
1	Triangular bandage
1	Athletic (elastic) bandage, 2"
20	Antiseptic wipes
6	Burn cream, _ oz. foil packs
1	First aid cream, 8 oz. tube
1	Instant cold pack, small (4½" x 6")
1	Ophthalmic irrigating solution, ½ oz.
12	Tylenol extra-strength caplets
20	Flexible fabric band aids, 1" x 3"
10	Flexible fabric knuckle and fingertip Band-Aids
2	Gauze general use sponges, 4" x 4"
20	Non-stick pads
2	Cling type rolled bandages, 2"
2	Oval eye pads
1	Hypo-allergenic first aid tape, ½" x 180" (5 yd.) in dispenser

Bloodborne Pathogens First Aid Kit:

PERSONAL APPAREL FOR SPILL CLEANUP – Adequate amount

1 Control gown
1 Pack absorbent powder
1 Pair shoe covers
1 Disinfectant cloth
1 Eye/face shield
1 Dust mask
2 Pair latex exam gloves
1 Scoop & spatula
3 Biohazard bags with ties
2 Antiseptic towels
1 Clear plastic bag
10 Paper towels
1 Pair latex exam gloves
6 Antiseptic towels

Suppliers:

Global Occupational Safety (800) 433-4848

Leonard Safety Equipment (800) 434-4660

Conney Safety Products (800) 356-9100

8B. Critiquing the occupational health delivery system

1C. Who should manage the Occupational Health Delivery Service ("OHDS")?

2C. What services do you need from your OHDS?

3C. Is a full range of OHDS services provided?

- To prevent hazards
- For early recognition and treatment

5A. Safety & Health Training

1B. Training tools

1C. Sample orientation checklist

Employee Orientation Checklist

General Information

___ Hours
___ Location of work
___ Attire
___ Parking
___ Facility tour
___ Pilferage policy
___ Drug screening
___ Pay scale
___ Payday
___ Pay period
___ Deductions
___ Employee purchases
___ Insurance
___ Family Medical Leave
___ Vacations
___ Holidays
___ Expense payment
___ Absent-late policy
___ Child labor laws
___ ADA
___ Other: _____

Employee Responsibilities

___ General work rules
___ Customer relations
___ Business travel
___ Personal belongings
___ Housekeeping
___ Vendor relations
___ Restrooms
Other: _____
___ Telephone
___ Lunch/breaks
___ Supply room

Safety & Health Program

___ PPE
___ First aid/CPR
___ Fire evacuation

___ Right To Know ___ Bloodborne Pathogens ___ Medical necessity
___ Lockout/Tagout ___ Lift truck license ___ Emergency kit
___ Accident reporting ___ Tornado ___ Lifting techniques
___ Safety committee ___ Fire extinguisher ___ Gas/Elec. sources
___ Sprinkler system ___ Bomb threat ___ Power outage
___ Severe weather ___ Civil disorder ___ Guards
___ HAZWOPER ___ Incentive program ___ Return To Work
___ Discipline policy ___*Specific Job Breakdown ___ OSHA regulations
___ Other: _____

2C. Sample job breakdown sheet

Specific Job Breakdown Sheet

Job or Task _____
Supervisor _____
Employee _____
Date ____ - ____ - ____

STEPS of job or task	HOW to do steps safely	WHY do steps safely
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____
5. _____	5. _____	5. _____
6. _____	6. _____	6. _____
7. _____	7. _____	7. _____
8. _____	8. _____	8. _____
9. _____	9. _____	9. _____
10._____	10. _____	10. _____

Supervisor's Suggested Training Method:

Tell trainee what to do.
Show the trainee how to do it.
Watch the trainee do it.
Retrain the trainee as needed.
Follow up at a later time.

"An ounce of prevention is worth a pound of cure." Ben Franklin

3C. Sample employee-training record

EMPLOYEE TRAINING RECORD

This safety training is mandatory for all employees by department or task. If an employee's name is not listed, then that employee *shall not* operate the equipment or do the task. Required training consists of the components listed below for Machinery / Equipment _____ or Task _____ .

Employee's Name	**Training Dates**	**Review Dates**	**Comments**
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
13. _____	_____	_____	_____
14. _____	_____	_____	_____
15. _____	_____	_____	_____

THE BASIC COMPONENTS COVERED IN THIS TRAINING WERE:		
1.	***5.***	***9.***
2.	***6.***	***10.***
3.	***7.***	***11.***
4.	***8.***	***12.***

Don't learn safety by accident!

2B. Training required:

Key:
* Train before exposure
** Train before exposure, with refresher-training annually
*** Train before exposure, with periodic re-certification
****Train before exposure and whenever a new hazard or task is introduced

SUBJECTS AND TRAINING-FREQUENCIES:

- Aerial Lift Work Platforms*** (Re-certification every 3 years)
- Bloodborne Pathogens** ("Category A" employees only)
- Confined Space Entry****
- Commercial Motor Vehicle (CDL)***
- Emergency Response**
- Fire Extinguisher**
- First Aid*** (Re-certification every 2 or 3 years, depending on program)
- CPR*** (Training is suggested, but not required. Re-certification every 1 or 2 years)
- Hazard Communication****
- Hazardous Energy Control (Lockout -Tagout)**** (Annual "Periodic Inspection")
- Hazardous Waste Handling****
- Hearing Conservation*
- MIOSHA Rights and Responsibilities*
- Personal Protective Equipment****
- Powered Industrial Truck*** (Re-certification every 3 years)
- Respiratory Protection****
- Traffic Control (MMUTCD Part 6)****
- Traffic Regulator**
- Task/Job-Specific Hazards****
- Welding and cutting*
- Chainsaw & Wood Chipper ****
- Crane & Rigging *** (Re-certification every 3 years for overhead crane)
- Automotive Service Operations (MIOSHA Part 72)*

NOTE: At Management's discretion, refresher training is required for any/all of the above categories, if unsafe work practices indicate that the original training is not being followed.

3B. Automotive Equipment Operation (Every employee shall:)

1C. Use seat belt equipment when provided, when operating trucks, snowplows, pick ups, passenger cars (including private vehicles when involved in Commission business) at all times.

2C. Strictly observe all road Commission rules for operation of equipment and all State of Michigan traffic laws.

3C. Thoroughly inspect the vehicle before starting work. Report any and all defective safety equipment or mechanical deficiencies to supervisor.

4C. Keep vehicle cab free of tools, clothing or other unnecessary equipment. Keep windows and mirrors free of dirt, frost or other foreign substances.

5C. Carry hard hats, safety glasses and traffic vests in vehicle at all times in case they are needed.

6A. Construction Safety and Accident Prevention Program

"OUR FUTURES ARE ONLY BUILT THROUGH OUR PEOPLE. WE AIM TO PROTECT THEM."

TABLE OF CONTENTS

1B. SAFETY AND HEALTH POLICY

CRASIF believes that NO JOB OR TASK IS MORE IMPORTANT THAN WORKER HEALTH AND SAFETY.

If a job represents a potential safety or health threat, every effort will be made to find a safe way to do the task.

Every procedure must be a safe procedure. Shortcuts in safe procedures by either foremen or workers will not be tolerated.

If a worker observes and unprotected job, which may pose a potential threat to their health or safety, he or she must inform management and management must take adequate precautions.

IF A JOB CANNOT BE DONE SAFETLY IT WILL NOT BE DONE.

OUR FUTURES ARE ONLY BUILT THROUGH OUR PEOPLE. WE AIM TO PROTECT THEM.

_____

(Signed)

2B. SAFETY AND HEALTH OBJECTIVES

CRASIF plans to achieve worker safety and health through the following:

1C. Using a qualified safety person.

2C. Making regular safety inspections.

3C. Enforcing the use of safety equipment.

4C. Following safety procedures and rules.

5C. Providing on-going safety training.

6C. Enforcing safety rules and using appropriate discipline.

3B. JOB SITE INSPECTIONS

The safety person or other designated person will tour each job site and observe potential safety/health hazards, including the potential hazards of confined spaces and develop a plan for safeguarding this company's workers which may include the following:

1C. Remove the hazard.

2C. Guarding against the hazard as required by MIOSHA.

3C. Providing personnel protective equipment and enforcing its use.

4C. Training workers in safe work practices.

5C. Coordinating protection of workers through the contractors.

6C. Maintaining safety inspections and correctional steps for future reference.

4B. WHAT IS AN INSPECTION?

The term "inspection" is used to cover many kinds of actions that involve looking closely at something to see if it meets requirements.

The term "regular site inspection" means a general inspection of every part of the work site to locate any hazards to workers that need correction. The term also includes routine industrial hygiene monitoring and sampling.

5B. WHAT SHOULD BE INSPECTED?

- See Job Site Inspection Checklist, page 78

6B. CONTRACTOR SAFETY PERSON

Name: _____

Is the designated person to administer the safety and health program for this organization. The responsibilities for this position are as follows:

1C. Being knowledgeable of potential job hazards.

2C. Assuring compliance with MIOSHA construction safety and health standard requirements.

3C. Making regular safety inspections.

4C. Establishing safety procedures.

5C. Correlating regular safety training with lead persons.

6C. Maintaining safety records.

7B. PERSONNAL PROTECTIVE EQUIPMENT

1C. Head protection will be worn on the job sites when there are potentials of falling objects, hair entanglement, burning, or electrical hazards.

2C. Eye protection will be worn when there are potentials of hazards from flying objects or particles, chemicals, arcing, glare, or dust.

3C. Protective footwear shall be worn to protect from falling objects, chemicals, or stepping on sharp objects. Athletic or canvas-type shoes shall not be worn.

4C. Protective gloves or clothing shall be worn when required to protect against a hazard.

5C. Harnesses and lanyards shall be utilized for fall protection as required in MIOSHA Construction Safety Standards.

8B. SAFETY RULES

ALL OF OUR SAFETY RULES MUST BE OBEYED. FAILURE TO DO SO WILL RESULT IN STRICT DISCIPLINARY ACTION BEING TAKEN.

- Keep your mind on your work all the time. No horseplay on the job. Injury or termination or both can result.

- Personal safety equipment must be worn as prescribe for each job, such as: safety glasses for eye protection, hard hats at all times within the confines of the construction area where there is a potential for falling materials or tools, gloves when handling materials, and safety shoes are necessary for protection against foot injuries.

- Precautions are necessary to prevent sunburn and to protect against burns from hot materials.

- If any part of your body should come in contact with and acid or caustic substances, rush to the nearest water available and flush the affected part. Secure medical aid immediately.

- Watch where you are walking. Don't run!

- The use of illegal drugs or alcohol or being under the influence of the same on the project shall be cause for termination. Inform your supervisor if taking strong prescription drugs that warn against driving or using machinery.

- Do not distract the attention of fellow workers. Do not engage in any act that would endanger another employee.

- Sanitation facilities have been or will be provided for your use. Defacing or damaging these facilities is forbidden.

- A good job is a clean job, and a clean job is the start of a safe job. So keep your working area free from rubbish and debris.

- Do not use a compressor to blow dust or dirt from your clothes, hair, or hands.

- Never work aloft if you are afraid to do so, if you are subject to dizzy spells, or if you are apt to be nervous or sick.

- Never move an injured person unless it is absolutely necessary. Further injury may result. Keep the injured as comfortable as possible and utilize the job site first-aid equipment until an ambulance arrives.

- Know where fire-fighting equipment is located and be trained on how to use it.

- Lift correctly-with legs, not the back. If the load is too heave GET HELP. Stay fit. Control your weight. Do stretching exercises. Approximately twenty percent of all construction related injuries result from lifting materials.

- Nobody but operator shall be allowed to ride3 in equipment unless proper seating is provided.

- Do not use power tools and equipment until you have been properly instructed in the safe work meatheads and become authorized to use them.

- Be sure that all guards are in place. Do not remove, displace, or destroy any safety or safeguard furnished or provided for use in the job, nor interfere with the use thereof.

- Do not enter an area that has been barricaded.

- If you must work around power shovels, trucks, and dozers, make sure operators can always see you. Barricades are required for cranes.

- Never oil, lubricate, or fuel equipment while it is running or in motion.

- Before severing, repairing, or adjusting any powered tool or piece of equipment, disconnect it, lock out the source of power, and tag it out.

- Barricade danger areas. Guard rails or perimeter cables may be required.

- Trenches over five feet deep must be shored or sloped as required. Keep out of trenches or cuts that not been properly shored or sloped. Excavated or other material shall not be stored nearer than two feet from the edge of the excavation. Excavations less than 5 ft may also require cave in protection in some instances.

- Use the “four and one” rule when using a ladder. One foot of base for every four feet of height.

- Portable ladders in use shall be equipped with safety feet unless ladder is tied, blocked or otherwise secured. Stepladders shall not be used as a straight ladder.

- Ladders must extend three feet above landing in roof for proper support.

- Defective ladders must be properly tagged and removed from service.

- Keep ladder bases free from debris, hoses, wires, materials, etc.

- Build according to manufacturers' recommendations and MIOSHA Construction Safety Standard Part 12-Scaffolding.

- Scaffold planks shall be properly lapped, cheated or otherwise secured to prevent shifting.

- Use only extension cords of the three-prong type. Use ground fault circuit interrupters at all times and when using tools in wet atmosphere (e.g. outdoors) or with any temporary power supply. Check the electrical grounding system daily.

- The use of harnesses with safety lines when working from unprotected high places is mandatory. Always keep your line as tight as possible.

- Never through anything "overboard." Someone passing below may be seriously injured.

- Open fires are prohibited.

- Know what emergency procedures have been established for your job site. (Location of emergency phone, first aid kit, stretcher location, fire extinguisher locations, evacuation plan, etc.)

- Never enter a manhole, well, shaft, tunnel or other confined space which could possibly have a non-respirable atmosphere because of lack of oxygen, or presence of toxic or flammable gas, or has a possibility of engulfing solids or liquids. Make certain a qualified person tests the confined area with an appropriate detector before entry, that the necessary safety equipment is worn. Standby person may be required to be stationed at the entrance.

9B. JOB SAFETY TRAINING

1C. After inspecting a job site, the safety person or other designated person will identify and evaluate all potential hazards for:

1D. Injury Severity potential.

2D. Probability of an accident.

2C. This person will also appraise the skill and knowledge level of exposed workers.

3C. Appropriate Training will be given.

1D. Hazards will be pointed out.

2D. Necessary precautions will be explained.

3D. The higher the hazard the more detailed will be the training.

4C. Records will be maintained for all training sessions with descriptions of topics covered and names of workers trained.

10B. SAFETY DICIPLINE (Choose one system.)

1C. Three-step System

First violation:	Written warning; copies to employee and employee's file
Second violation:	Written warning; suspension for ½ or full day without pay.
Third violation:	Written report for file and immediate termination.

2C. Four-step System

First violation:	Oral warning; notation for personnel file.
Second violation:	Written warning; copy for file or Personnel Office
Third violation:	Written warning; one day suspension without pay.
Fourth violation:	Written warning and one-week suspension, or termination if warranted.

3C. A record will be maintained of all discipline.

11B. POWER LOCKOUT PRECEDURE

1C. PURPOSE

The purpose of this procedure is to assure that employees are protected from unintended machine motion or unintended release of energy, which could cause injury.

2C. MANAGEMENT RESPONSIBILITIES

- Each supervisor shall train new employees and periodically instruct all of their employees regarding provisions and requirements of this lockout procedure.

- Each supervisor shall effectively enforce compliance of this lockout procedure including the use of corrective disciplinary action where necessary.

- Each supervisor shall assure that the locks and devices required for compliance with the lockout procedure are provided to their employees.

- Prior to setting up, adjusting, repairing, servicing, installing, or performing maintenance work on equipment, machinery, tools, or processes, the supervisor shall determine and instruct the employees of the steps to be taken and ensure they are not exposed to injury due to unintended machine motion or release of energy.

3C. EMPLOYEES RESPONCIBILITY

- Employees shall comply with the lockout procedure.

- Employees shall consult with their supervisor or other appropriate knowledgeable management personnel whenever there are any questions regarding their protection.

- Employees shall obtain and care for the locks and other devices required to comply with the lockout procedure.

4C. GENERAL

- The power source of any equipment, machine, tool, or process to be set-up, adjusted, repaired, serviced, installed, or each employee doing the work shall lock out where maintenance work is to be preformed and unintended motion or release of energy could cause personal injury, such a power source. Sources of energy, such as springs, air, hydraulic and steam shall be evaluated in advance to determine whether to retain or relieve the pressure prior to starting the work.

- Safety locks are for the personnel protection of the employees and are only to be used for locking out equipment.

- Safety locks, adapters, and “Danger Tags” can be obtained from the supervisor.

- Equipment locks and adapters can be obtained from the supervisor. The sole purpose of the “Equipment” lock and adapter is to protect the equipment during periods of time when work has been suspended or interrupted. The locks are not to be used as a substitute for the employee’s personnel safety lock.

- Personnel locks shall contain a tag with employee’s name on it.

- The employee to whom it was issued shall retain one key of every lock issued and the superintendent shall retain the only other key to the lock.

- Employees shall request assistance from their supervisor if they are unsure of where or how to lockout equipment.

- Any questions concerning the lockout procedure should be directed to the employee’s supervisor.

5C. LOCKING OUT AND ISOLATING THE POWER SOURCE

- Equipment, machines, or processing main disconnect switches shall be turned off and locked in the off position only after the electrical power is shut off at the point of operator control. Failure to follow this procedure may cause arching and possibly an explosion.

- Equipment /tools connected to over a 110 volt source of power by a plug-in cord shall have a locking device applied to the plug attached to the cord leading to the machine to be considered lock out.

- Equipment/tools connected to a 110 volt source of power by a plug-in cord shall be considered locked out if the plug is disconnected and tagged with a “do not start tag.”

- After locking out the power source, the employee shall try the equipment, machine, or process controls to ensure no unintended motion will occur; or test the equipment to determine that the energy isolation has been effective.

- When two or more employees work on the same equipment, each is responsible for attaching his/her lock. Safety locks and adapters are to be fixed on levers, switches, valves, etc. in the noncreative (off) position.

- An employee who is assigned to a job and upon arrival finds an “Equipment Lock,” “Adapter,” and “Danger Tag” affixed to the equipment shall take the following action:

1) Affix his/her personal lock to the “Equipment Adapter.”

2) Determine who placed the equipment out of service and contact all parties who have locks on the equipment to determine if the assignment will proceed only if safe to do so with all parties involved.

3) Try the controls to ensure no unintended motion will occur before starting work or qualified personnel shall test the equipment, machine, or process by the use of appropriate test equipment to determine that the energy isolation has been effective. (Such testing equipment is only to be employed by trained qualified personal.)

6C. PREFORMING TEST AND ADJUSTMENTS DURING LOCKOUT

- Power may be turned on when it is required to perform tests or adjustments. All of the rules pertaining to removing locks and restoring power shall be followed. The equipment or process shall again be locked out if it is necessary to continue work after completing the test or adjustments.

- If the employee leaves the job before completion, such as job reassignment, the employee shall remove his/her personal lock and adapter and replace it with and “Equipment” lock and adapter. In addition, the employee will prepare and attach a “Danger Tag” indicating the reason the equipment is locked out (should more than one employee be assigned to the job, the last employee removing his/her lock will be responsible for affixing the “Equipment” lock, adapter and the “Danger Tag”).

- Upon completion of the work, each employee will remove his/her lock, rendering the machine operable when the last lock is removed.

- The employee responsible for removing the last lock, before doing so, shall assure that all guards have been replaced, the equipment, machine, or process is cleared for operation, and appropriate personal notified that power is being restored. This employee is also responsible for removing the “Equipment” lock and returning it to the supervisor.

7C. EMERGENCY SAFETY LOCK REMOVAL

- The superintendent, or other designated management person, will be

authorized to remove and employee's lock under the following conditions:

1) Receipt of a written request signed by the appropriate supervisor that shall state the reason the employee is not able to remove the lock.

2) The supervisor is responsible for making certain all the requirements for restoring power are followed.

12B. CONFINED SPACE ENTRY

No employee shall enter areas defined below without authorization:

1C. A space that is NOT DESIGNATED FOR CONTINUOUS employee OCCUPANCY; and

2C. Is large enough and so configured that a person can bodily enter into and perform assigned work; and

3C. Has LIMITED or RESTRICTED means for ENTRY or EXIT; and

4C. May have a POSSIBLE HAZARDOUS ATMOSPHERE that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue caused by:

- Flammable gas
- Airborne combustible dust
- Atmosphere oxygen concentration below 19.5 or above 23.5%
- A toxic atmosphere or substance
- Danger of engulfment

UNTIL AN AUTHORIZED PERSON EVALUATES THE AREA AND AUTHORIZES ENTRY.

13B. GENERAL CONFINED SPACE ENTRY PROCEDURE

1C. There shall be no unauthorized entry into a confined space by any person.

2C. An authorized person shall examine, test and evaluate a potential entry space and determine if it is a "NON-PERMIT SPACE" and meet the following requirements:

- It does NOT contain any atmospheric hazards or dangers of engulfment capable of causing death or serious physical harm;

- The space has been PROVEN SAFE, has been VERIFIED, DOCUMENTED, and has a CERTIFIED GUARANTEE of safe environment.

3C. *If the conditions in #2 have been satisfied, the ALTERNATE ENTRY PROCEDURE may be followed.*

4C. *If conditions in #2 are not met and has any of the following, the PERMIT ENTRY POCEDURE must be as follows:*

THE SPACE:

- Contains or has potential to contain a HAZARDOUS ATMOSPHERE.

- Contains a material that has a potential for ENGULFING and entrant.

- Has and internal configuration such that an entrant could be trapped or asphyaited by inwardly converging wall or by a floor which slopes downward and tapers to smaller cross section; or

- Contains and other recognized serious safety or health hazard.

14B. EMERGENCY PROCEDURES

In case of an emergency on site the following procedures should be instituted at each site:

1C. *Method of communication should be determined at each site, telephone, radio, etc.*

2C. *Emergency telephone numbers should be posted:*

- Police
- Fire
- Medical Response Team

3C. *Post near communication station the address of your site.*

4C. *Post names of first aid responder on site.*

5C. *Designate person to direct emergency crews to site of emergency.*

15B. WRITTEN HAZARD COMMUNICATION PROGRAM

GENERAL: The following hazard communication program has been established for CRASIF. This program will be available for reviews by all employees.

1C. HAZARD DETERMINATION

The CRASIF member will be relying on Material Safety Data Sheets from suppliers to meet determination requirements.

2C. LABELING

- The CRASIF member will be responsible for seeing that all containers coming in are properly labeled.
- All labels shall be checked for:
  1) Identity
  2) Hazard
  3) Name and address of responsible party
- Each manager shall be responsible for seeing that all portable containers used in their work areas are labeled with identity and hazard warning.

3C. MATERIAL SAFETY DATA SHEETS ("MSDS")

- The manager will be responsible for compiling the master MSDS file. It will be kept _____.
- Copies of MSDSs for all hazardous chemicals to which employees may be exposed will be kept in a file at _____.
- MSDSs will be available for review to all employees during each work shift. Copies will be available upon request to _____.
- The _____ will be provided with the required MIOSHA Right-to-know posters and postings notifying employees of new or revised MSDSs within five (5) days of receipt of new or revised MSDSs.

4C. EMPLOYEE INFORMATION TRAINING

- The _____shall coordinate and maintain records of

training conducted for employees.

- Before starting work, or as soon as possible thereof, each new employee will attend a safety class. In that class, each employee will be given information on:

    1) Chemicals and their hazards in the workplace.
    2) How to lessen or prevent exposure to these chemicals.
    3) What the company has done to lesson or prevent workers' exposure to these chemicals.
    4) Procedures to follow if they are exposed.
    5) Haw to read and interpret labels and MSDSs.
    6) Where to locate MSDSs and form whom they may obtain copies.

- The employee will be informed that:

    1) The employer is prohibited from discharging, or
    2) Discriminating against, an employee who exercises the rights regarding information about hazardous chemicals in the workplace.
    3) As an alternative to requesting an MSDS from the employer the employee may obtain a copy from the Department of Public Health.

- Attendance will be taken at training sessions. These records will be kept by _____.

- Before any new hazardous chemical is introduced into the workplace, each employee will be given information in the same manner as during the safety class.

5C. HAZARDOUS NON-ROUTINE TASKS (Delete entire section if not applicable)

- On occasion, employees are required to do work in hazardous areas (e.g. confined spaces). Prior to starting work in such areas, each employee will be given information about the hazards involved in these areas.

- This information will include:

    1) Specific chemical hazards.
    2) Protection/safety measures the employee is required to take

to lessen risks.

3) Measures the company has taken to lessen the hazards, including ventilation, respirators, the presence of another employee, and emergency procedures.
4) It is the policy of CRASIF that no employee will begin work in a confined space, or any non-routine task, without first receiving a safety briefing.

6C. INFORMING CONTRACTORS

- It is the responsibility of the CRASIF member to obtain chemical information from contractors when they will expose their employees to hazardous chemicals which they may bring into their workplace.

7C. PIPE AND PIPING SYSTEMS

- Information on the hazardous contents of the pipe and piping shall be readily available.

8C. LIST OF HAZARDOUS CHEMICALS

This is a list of chemical used by the CRASIF member's employees on job sites:

MATERIAL (Name on labeled and MSDS)

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

7A. Fleet Safety Program

1B. Michigan Vehicle Code, Act 181 (Outline and Pertinent Sections)

480.11 Short title: *"Motor Carrier Safety Act of 1963"*

480.11a Adoption of federal regulations; definitions.

"This state hereby adopts the following provisions of title 49 of the code of federal regulations . . . (a) Hazardous materials regulations, being 49 CFR parts 100 through 180. (b) Motor carrier safety regulations, being 49 CFR part 382, part 387, parts 390 through 393, parts 395 through 397, and part 399 including appendices 1, D, E, and G . . .

'Commercial motor vehicle' means any self-propelled or towed vehicle designed or used on public highways transport passengers or property, except for a bus exempted in subdivision (b), if the vehicle is 1 or more of the following:

(i) Has either a gross vehicle weight rating or an actual gross weight or gross combination weight rating or an actual gross combination weight of 10,001 or more pounds.

(ii) Designed to carrying 16 or more passengers, including the driver.

(iii) Is used in the transportation of hazardous materials in a quantity that requires the vehicle to be marked or placarded pursuant to 49 CFR parts 100 through 180."

480.11b Motor carrier safety appeal board; creation; membership; duties.

480.12 Repealed. 1984, Act 23, Imd. Eff. Mar. 8, 1984

480.12a Qualifications of person operating, driving, or maintaining bus, truck, truck tractor, trailer, or certain other motor vehicles.

480.12b Safety standards; driver or operator; equipment and devices; loading and unloading.

480.12c Safety standards; operation and maintenance of transportation facility.

480.12d Person qualified to drive commercial motor vehicle.

"(2) A person is qualified to drive a commercial motor vehicle if he or she meets all of the requirements of 49 CFR part 391 except for the following circumstances:

(a) In the case of intrastate transportation, meets 1 or more of the following:

(i) Is at least 18 years old when transporting intrastate property or passengers, except as provided in subparagraphs (ii) and (iii).

(ii) Is at least 16 years of age when acting as a farm vehicle driver as defined in 49 CFR 390.5.

(iii) Is as least 21 years old when transporting hazardous materials in a quantity that requires the vehicle to be marked or placarded pursuant to the provisions of 49 CFR parts 100 through 180. This subparagraph does not apply to a vehicle eligible for and displaying valid farm plates with a gross vehicle weight of 40,000 pounds or less if the driver is 18 years of age or over.

(b) In the case of intrastate transportation, is eligible for and displays a valid medical waiver card or grandfather rights card issued in accordance with this act."

480.12e Person applying to operate commercial motor vehicle; providing list of Applicant's former employers and related information.

480.12f Motor carrier; review of driving records required; exception.

480.12g & 480.12h Repealed. 1995, act 265, Imd. Eff. Jan. 8, 1996

480.12i Medical examiner's certificate.

480.12j Persons required to be medically examined and certified in accordance with 49 C.F.R. 391.43.

480.12k Waiver of physical disqualification.

480.12*l* Appeal.

480.12m Driver qualification file.

480.12n Regularly employed drivers of intrastate motor carriers of property; non-applicability of certain provisions; applicability and validity of grandfather rights.

480.12o Regularly employed drivers of intrastate motor carriers of passengers; non-applicability of certain provisions; applicability and validity of grandfather rights.

480.12p Person who becomes driver for motor carrier after being full-time employee of motor carrier; non-applicability of certain provisions.

480.12q Drivers of farm vehicles; non-applicability of certain provisions

480.12r Mechanic servicing motor carrier equipment during intrastate operation; non-applicability of provisions.

"The provisions of this act, except 49 CFR part 382, do not apply to a mechanic who services motor carrier equipment during the intrastate operation of this equipment when all of the following conditions are met:

(a) The vehicle or combinations are not being used to transport passengers or property or any for hire or compensated transportation including paid haulage when the units are empty.

(b) The mechanic is not otherwise being used as a regularly employed driver.

(c) The mechanic is test driving a loaded commercial motor vehicle within 10 miles of the repair facility."

480.12s Utility, telephone, and cable television company services employees; non-applicability of act.

480.12t Truck tractor and semi-trailer combination; under-ride guard requirements; exemption; "asphalt hauling vehicle" defined; other construction deemed in compliance with section.

480.12u Federal rules applicable to certain drivers.

480.12v Maximum driving time.

"(1) A motor carrier shall not permit or require a driver of a commercial motor vehicle, regardless of the number of motor carriers using the driver's service, to drive for any period after having been on duty 60 hours in any 7 consecutive days if the employing motor carrier does not operate every day in the week, or having been on duty 70 hours in any period of 8 consecutive days if the employing motor carrier operates commercial motor vehicles every day of the week.

(2) This section shall not apply to the following drivers if their total driving time does not exceed 40 hours in any period of 7 consecutive days: . . .

(d) Any driver of a commercial motor vehicle engaged in season construction related activities within a 100-air mile radius of the normal work reporting location."

480.12w Non-applicability of 12 consecutive hours on duty requirement.

"The 12 consecutive hours on duty requirement contained in 49 CFR 395.8 (L)(1)(ii) shall not apply to intrastate drivers of commercial motor vehicles described in section 2v(2)(b), (d), and (e) who return to the work reporting location, and are released from work within 15 consecutive hours of being on duty."

480.13 Applicability of act and rules.

"This act and the rules promulgated under this act do not apply to:

(a) A semi-trailer or truck used exclusively for storage purposes.

(b) A commercial motor vehicle owned and operated by a unit of government or its employees, except as otherwise provided in this act, and except for the following parts of 49 C.F.R.: part 382, controlling substances and alcohol use and testing; part 391, qualification of drivers; part 392, driving of motor vehicles; and part 393, parts and accessories necessary for safe operation."

480.14 Rules and regulations.

480.15 Repealed. 1995, Act 265, Imd. Eff. Jan. 8, 1996

480.16 Motor carriers; submission of documents to motor carrier officer; facsimile of identification card; inspection of cargo.

480.17 Violation of act or rules.

480.17a Accident report form; recommendations; definition.

480.17b Penalties; "serious safety defect: defined.

480.17c Owner or user of certain vehicles; transporting package required to be marked or labeled; violation; penalty; owner or user of hazardous materials vehicle inspection or repair facility; violation as misdemeanor.

480.17d Definitions; compliance order; shut down order; non-compliance as misdemeanor; impoundment of vehicle.

480.18 Venue.

480.19 Notification of incident; definition.

480.20 Vehicle combination transporting combustible liquid; requirements; information required to be on file; retention and transfer of information; applicability of requirements in subsection (2) and (3); transport of flammable liquids, gases, or compressed gases.

480.21 Ordinances, resolutions, or rules inconsistent with act; "inconsistent" defined.

480.22 Transfer of hazardous material; prohibitions; exceptions.

2B. Accident Benchmarks -- National Highway Traffic Safety Administration 1996

1C. General Statistics:

- 6,842,000 police reported traffic crashes
- 41,907 people killed
- 4,548,000 crashes involved property damage only

2C. Fatality Rate:

- 1.7 per 100 million vehicle miles of travel in 1996
- 2.5 per 100 million vehicle miles of travel in 1986
- 15.80 per 100,000 population (1% less than 1995)

3C. Injury Rate: 142 per 100 million vehicle miles of travel in 1996

4C. Alcohol: In 1996, there were 17,126 fatalities in alcohol related crashes (1% less than 1995)

3B. *Driver's Guide, Small Vehicle Version – The "Smith System," Arlington, Texas 76013, (800) 275-1225*

1C. Ten Common Causes of Accidents:

- **Inattention** to the serious business of driving through the ever-changing, ever-moving traffic world.
- **Too much attention** for too long on one item, while missing others of greater importance.
- **Not enough time** to make important decisions and act on them.
- **Not enough space** between other vehicles, leaving no maneuvering room.
- **Not allowing for others' mistakes**.
- **Not enough drivers' training** and/or licensing requirements.
- **Failure to adjust or adapt** to changing road and weather conditions.
- **Venting emotions** when driving – Unsafe Attitude.
- **Vehicle failure.**

2C. Five Keys to Safety:

- **Aim high in steering**:

    1) Set your sights high – look ahead to where your vehicle will be 15

seconds from now.
2) When possible, double your eye-lead time to 30 seconds.
3) Determine the existence of potential road hazards ahead and the status of distant traffic lights.
4) Let drivers telegraph information to you by their actions or brake lights.
5) At night, look well beyond your headlight spray.

- **Get the big picture**:

1) Acquire full information on which to base decisions.
2) Maintain at least a 15-second eye-lead time while keeping up with your side views, and while repeatedly checking your mirrors.
3) Eliminate any vision barriers in front of you by keeping your distance from them.
4) Establish proper following distance, use the four-second rule.
5) Increase your following distance even more in poor weather.
6) Don't yield to distractions inside your vehicle or your mind, and steer clear of other who do.

- **Keep your eyes moving**:

1) Keep your eyes moving every two seconds on average.
2) Check one or more of your mirrors every five-to-eight seconds.
3) Before starting up at an intersection, look left, then right, then left again.

- **Leave yourself an out**:

1) Build a space cushion all around your vehicle.
2) Start by using the features of high-aim steering, where you select a safe path through traffic and establish 15-second eye-lead time.
3) Open up the sides and rear of your cushion by adjusting your speed and choosing the lane where the fewest objects can invade your space.
4) If conditions become too congested for you to keep a four-sided space cushion, try to keep at least the front and one side open.
5) On streets with parked vehicles at curbside, be wary of traveling in the right lane.
6) Avoid tailgaters by encouraging them to pass.
7) When stopped behind another vehicle, stay roughly 15 feet back – about one average car length.
8) When stopped first n line at a crosswalk, stay 15 feet back, even though another vehicle is not in front of you.

- **Make sure they see you**:

1) Use your horn. A light, friendly tap or two can usually bring eye contact.
2) Use your headlights. The human eye is attracted to light.

3) Use your brake lights. Early braking alerts people behind you, and can give them more time to respond.
4) Use hand signals. They can show your intentions.
5) Be ready to quickly alter your plans.

4B. Sample -- Formal Fleet Safety Program

1C. Functions of the Fleet Safety Program

1) Establish safe work guidelines.

2) Establish accident procedures.

3) Outline what are considered preventable and chargeable accidents.

4) Set guidelines of what constitutes a major accident.

5) Establish emergency procedures to follow in the case of a major accident.

6) Develop and use an accident investigate procedure/form.

7) Create a progressive disciplinary format to follow for preventable accidents and/or moving violations.

8) Set guidelines for considering new applications:

   a) Establish minimum requirements in the areas of accidents, moving violations, and years of experience.

   b) Develop a step-by-step procedure for hiring drivers:

      - Screening an applicant
      - Background investigation
      - Road testing and evaluating drivers
      - Establish a DOT file for new hires

9) Create a monthly safety letter for drivers relating to hazards that are prevalent during the various seasons of the year, as well as skid control, the "five seeing habits" (See the *"Smith System"* – Five Safety Keys - above.), defensive driving, etc.

10) Create an incentive program to entice drivers to be more safety conscious.

11) Devise a damage survey procedure and form to be filled out before and/or after each trip by every driver.

12) Strive for company compliance with all state and federal

regulations.

2C. Objectives of the Fleet Safety Program

1) To create a safe and accident-free place for employees to work;

2) To control monetary loss caused by accidents and injury;

3) To protect the integrity of the company trucking (vehicle) operation;

4) To lower the accident frequency and severity;

5) To identify trends, both positive and negative;

6) To alert top management of the potential for catastrophic situations; and

7) To expose potential hazards to people and property.

3C. Planning for Results

1) Establish goals and objectives that are realistic to achieve for the company and individuals.

2) Set a time frame for attaining the objective(s).

3) Keep lines of communication open to monitor progress.

4C. Management Support

1) Develop a Safety Statement of Policy, signed by the CEO.

2) Designate an individual who is responsible for the fleet safety program, and who reports directly to top management.

3) Hold department heads, supervisors, and employees accountable for failure to adhere to the fleet safety program.

5C. Interdepartmental Teamwork

1) A fleet safety program is ineffective unless all levels of supervision, especially department heads, actively practice it.

2) Input must be gained from each department before implementing a fleet safety program and/or new procedure.

3) The formation of a safety committee, which is composed of all department heads, including CEO, gives unity to the program and

lends to everyone working toward the same goal(s).

4) Maintenance and Operation are the key departments for implementing the fleet safety program.

6C. The Role of the Safety Director

1) He/she must be given the authority by top management to establish the firm's safety policy and procedures. (Generally, [this person should be at least] at the level of [the] other department heads.)

2) He is responsible for the implementation and maintenance of the fleet safety program.

3) This individual must stay abreast of new compliance regulations as well as new concepts and methods in the safety arena.

4) Accident investigation and reporting should be under his control.

5) He must have the ability to put together presentations of new ideas or changes, and to "sell" them to top management and others.

6) This person should establish an incentive program.

7) He must maintain a rapport with the employees, who will enable the fleet safety program to succeed. In doing this, the position sometimes evolves into a liaison between management and employees.

8C. Establishing Effective Procedures

1) Analyze existing operations.

2) Create employment selection criteria.

3) Devise a training program to address reoccurring incidents.

4) Utilize the safety committee to implement new procedures.

5) Organize a sub-committee, which is composed of several employees, to establish communication with management on safety concerns.

9C. Evaluate Progress

1) Review loss data systematically.

2) Maintain communication with employees and management

regarding implementation of new ideas and programs.

3) Follow-up with progress reports to the safety committee.

4) Assist in areas that need more attention.

5) Recognize superior performance by departments and individuals.

6) Exercise authority to enforce compliance when necessary.

10C. Training Resources

- Michigan Center for Decision Driving (800) 325-6733
- Michigan Truck Safety Commission (800) 682-4682
- American Trucking Association (800) 288-8504
- Michigan Trucking Association (517) 321-1951
- Michigan DOT

Truck Driver's Handbook -- Summary
(Michigan Truck Safety Commission)

General Information

The size of a commercial motor vehicle (height, width, length, weight, weight rating) will determine to what degree you will need to comply with state and federal safety regulations. These rules and regulations are found in the Federal Motor Carrier Safety Regulations (**FMCSR**) and the Michigan Vehicle Code (**MVC**). Carriers and drivers should become familiar with these publications to better understand their compliance requirements.

Vehicle identification (MVC)

All motor vehicles, except farm plated vehicles, having a registered weight over 5,000 pounds and all towing or platform bed wreckers must have the name, city and state or registered logo of the owner displayed on the vehicle.

Truck speed limit (MVC)

A truck with a gross weight of 10,000 pounds or more, a truck-tractor with trailer or a combination of these vehicles shall not exceed a seed of 55 mph.

Third lane use (MVC)

On roadways having three or more lanes for travel in the same direction, trucks with a gross weight of more than 10,000 pounds, a truck-tractor or a combination of a vehicle and trailer or semi-trailer must operate in the two right-hand lanes only. However, there are a few exceptions: for a reasonable distance when exiting from the left lane; or, when a special hazard exists that requires the use of an alternate lane for safety purposes.

Following distance (MVC)

Outside the corporate limits of a city of village, a person shall not operate a motor vehicle with a gross weight, loaded or unloaded, in excess of 5,000 pounds within 500 feet of a similar vehicle traveling in the same direction, except to pass.

Transportation of passengers (FMCSR)

A driver may not transport any passenger on a commercial motor vehicle, except a bus, without written authorization from the carrier under whose authority the vehicle is being operated.

When authorization is issued, it shall state the name of the person to be transported, the points where the transportation is to begin and end, and the date upon which such

authorization expires.

Authorization is not required for:

- Other employees assigned to the vehicle.
- Any person transported when aid is being rendered in case of an accident of other emergency.
- An attendant delegated to care for livestock.
- Vehicles controlled and operated by a farmer.

Using a commercial motor vehicle for purposes other than those defined (FMCSR)

Whenever a commercial motor vehicle of one type is used to perform the functions normally performed by a commercial motor vehicle of another type, the regulations apply to the vehicle and to its operation in the same manner as though the vehicle were actually a commercial motor vehicle of the latter type.

Example: If a bus is used to transport goods rather than passengers, then the regulations pertaining to the transportation of goods shall apply to that commercial motor vehicle.

Definitions

Some of the following definitions may be incomplete or rephrased – please refer to the actual rules for complete definitions.

Bus
Federal Motor **Carrier** *Safety Regulations (FMCSR)*

Any motor vehicle designed, constructed and/or used for the transportation of passengers, Including taxicabs.

Michigan Vehicle Code

A motor vehicle designed for carrying 16 or more passengers, including the driver. Bus does not include a school bus.

Chauffeur
Michigan Vehicle Code

A person who is employed for the principal purpose of operating a motor vehicle with a gross vehicle weight rating (GVWR) of 10,000 pounds or more; or

A person who operates a pupil transportation vehicle used for the regularly scheduled transportation of pupils between school and home, or a person who operates a bus or school bus; or

A person who operates a taxi or limousine.

NOTE: Michigan law considers someone to be employed for the principal purpose" of operating a motor vehicle "when the person's employment customarily involves the necessary use of a motor vehicle for hire or for transporting passengers for him or for transporting for gain or hire any merchandise for display, sale or delivery.

Commercial Motor Vehicle
Michigan Motor Carrier Safety Act of 1963?

Any self-propelled or towed vehicle used on public highways to transport passengers or property and:

Has either a gross vehicle weight rating or actual gross weight or gross combination weight rating or an actual gross combination weight of 10,001 or more pounds; or

is designed for carrying 16 or more passengers, including the driver; or

the vehicle is used in the transportation of hazardous materials in a quantity that requires the vehicle to be placarded pursuant to 49 CFR, parts 100 to 180.

Commercial Motor Vehicle Driver
Federal Motor Carrier Safety Regulations

Any person operating any commercial motor vehicle.

Elected Gross Weight
Michigan Vehicle Code

The empty weight of a vehicle or combination of vehicles, fully equipped for **service, plus the weight of** the maximum load which the **owner has chosen** to carry on such vehicle or combination of vehicles.

Empty Weight
Michigan Vehicle Code

Empty weight means the shipping weight of a vehicle as furnished by the manufacturer or a scale weight taken from a weight receipt furnished by the weighmaster operating scales approved and sealed by the State Department of Agriculture.

Note: For commercial vehicles, empty weight shall also mean fully equipped for the use for which the vehicle is intended.

Farmer
Federal Motor Carrier Safety Regulations

Any person who operates a farm or is directly involved in the cultivation of land, crops or livestock that are owned or directly controlled by that person.

Farm Vehicle Driver
Federal Motor Carrier Safety Regulations

A person who drives only a motor vehicle that is:

1. Controlled and operated by a farmer as a private motor carrier of property, within 150 air miles of the farm, and transporting either agricultural products, farm machinery or farm supplies to or from a farm; and

2. Not being used in the operation of a for-hire motor carrier, and not carrying hazardous materials of a type or quantity that requires the vehicle to be placarded.

Gross Combination Weight Rating (GCWR)
Federal Motor Carrier Safety Regulations

The gross vehicle weight rating (GVWR) of the power unit plus the gross vehicle weight rating (GVWR) of the vehicle(s) or trailer(s) being towed.

Gross Vehicle Weight Rating (GVM)
Federal Motor Vehicle Safety Regulations

The value specified by the manufacturer as the loaded weight of a single vehicle.

NOTE: The GVWR of a power unit is generally found on a metal tag located near the driver door/seat; on trailers - on the left front. Do not confuse gross vehicle weight rating with elected gross weight.

Gross Weight
Michigan Vehicle Code

The weight of a vehicle without load plus the weight of any load thereon.

Implement of Husbandry
Michigan Vehicle Code

A vehicle that is either a farm tractor, a vehicle designed to be drawn by a farm tractor or an animal, a vehicle which directly harvests farm products, or a vehicle which directly applies fertilizer, spray or seeds to a farm field.

Note: Even though an "implement of husbandry" is excepted from some provisions, it must still be capable of safe operation and be operated in a safe manner. Operators of implements of husbandry may still be subject to civil and criminal claims for property damage or personal injury arising from the implement's operation.

Interstate Commerce
Federal Motor Carrier Safety Regulations

The transportation of persons or property, wherein the transportation, either partial or total, results in movement across a state or international border.

Intrastate Commerce
Federal Motor Carrier Safety Regulations

The transportation of persons or property between points within the boundaries of a state and is not the beginning or continuation of interstate commerce.

Medical Examiner's Certificate *(Medical Card)*
Federal Motor Carrier Safety Regulations

A document issued by a medical examiner to a commercial motor vehicle driver certifying the driver is medically qualified under state and/or federal standards to operate a commercial motor vehicle. (Medical exam is good for 24 months, §391.45.)

Note: The certificate, either the original or a copy, must be carried by the driver when operating a commercial motor vehicle, and the employer is required to keep either the original or a copy in the driver's qualification file.

Medical Waivers *(Intrastate drivers only)*
Motor Carrier Safety Act of 1963

Physical Defect Waiver - Issued to a commercial motor vehicle driver who, because of a medical reason, would otherwise not be qualified to operate a commercial motor vehicle.

Grandfather Rights Waiver - Issued to a commercial motor vehicle driver who:

Has been a regularly employed driver of the same motor carrier continuously since before June 10, 1984; and

Has continued to be a regularly employed driver of that motor carrier; and

Is otherwise qualified to drive a commercial motor vehicle.

For waiver applications, contact the Motor Carrier Division at (517) 336-6195.

Michigan Motor Carrier Safety Act

An act to promote safety upon the public highways by regulating commercial motor Vehicles and the operators of those vehicles.

Private Motor Carrier of Passengers
Federal Motor Carrier Safety Regulations

Business: A private motor carrier engaged in the transportation of passengers that is provided in the furtherance of a commercial enterprise and is not available to the public at la e.

Non-business: A private motor carrier involved in the transportation of passengers that does not otherwise meet the definition of a private motor carrier of passengers (business).

Special Mobile Equipment
Michigan Vehicle Code

Every vehicle not designed or used primarily for the transportation of persons or property and incidentally operated or moved over the highways, including farm tractors, road construction or maintenance machinery, mobile office trailers, mobile tool sheds, trailers for housing stationary construction equipment, ditch digging apparatus, well-boring and well-serving apparatus.

Vehicle Registration & Motor Fuel Tax

Vehicle Registration

Elected Gross Vehicle Weight Plate
The elected gross vehicle weight plate is required for:

Trucks, road tractors and truck tractors operated in commerce that actually weigh 8,001 pounds or more.

Any truck (including pickups and vans) operated in commerce that weighs 8,000 pounds or less, and is used to tow a trailer or any other combination of vehicles.

International Registration Plan (IRP)
IRP is a program for licensing commercial vehicles that operate in interstate commerce. Carriers are issued a special "apportioned" license plate and cab card for each vehicle. The cab card lists the **IRP** states the vehicle is licensed to enter and the elected weight for each state.

Registration is required if you operate a commercial motor vehicle in Michigan and any other **IRP** jurisdiction and the vehicle:

Is a power unit having two axles and a gross vehicle weight or registered gross vehicle weight in excess of 26,000 pounds; or

Is a power unit having three or more axles, regardless of weight; or

Is used in combination, and the weight of such combination exceeds 26,000 pounds gross vehicle weight.

IRP exemptions
These vehicles do not need apportioned registration:

- Government-owned vehicles
- City pick-up and delivery vehicles
- Recreational vehicles
- Buses used to transport charter groups
- Vehicles displaying a restricted plate, recognized under other reciprocity agreements

Temporary registration
Operators of out-of-state vehicles requiring IRP registration, but not registered in Michigan, can obtain temporary registration through the Michigan Department of State or a private permit service.

Farm and wood harvester plates
Special registration for farm and wood harvesting operations. These plates are for exclusive use in the operation of a farm and a wood harvesting operation **only,** and may not be used for-hire or to transport processed lumber.

Hunter's permit
Allows an owner-operator, registered in Michigan, whose lease has been terminated to operate within the state for 14 days to look for another carrier.

Motor Fuel Tax License

The **International Fuel Tax Agreement (IFTA)** requires you to have a fuel tax license if a diesel powered motor vehicle is used, designed or maintained for the transportation of persons or property and:

Has 3 or more axles regardless of weight; or

Has 2 axles and a gross vehicle weight or registered weight exceeding 26,000 lbs.; or

Is used in a combination of vehicles and the gross combination weight or registered combination weight exceeds 26,000 pounds.

Is required whether you operate only in Michigan or across state borders. Your particular operation will determine which tax license you need.

For complete vehicle registration
and
fuel tax requirements
contact:

Michigan Department of State (517) 322-1097
or
Michigan Department of Treasury (517) 373-3183

Commercial Driver License (CDL)

Who needs a CDL? *(Michigan Vehicle Code)*

If you are going to operate ANY of the following vehicles either within the state or across state/foreign borders, you need a CDL. A CDL is a privilege that is added to an operator/chauffeur license.

What type of CDL do I need?

A Michigan resident needs a CDL with the appropriate group designation to operate the following vehicles:

Group A To operate a vehicle which:

- Tows a trailer or other vehicles with a vehicle weight rating (GVVVR) over 10,000 lbs. **(Group A *designation allows a diver* to operate Group *B and Group C vehicles.)***

Group B To operate a vehicle with:

- A GVWR of 26,001 pounds or more.
- A gross combination weight rating (GCWR) of 26,001 pounds or more with a GVWR of not more than 10,000. (Group B designation allows you to operate Group C vehicles.)

Group C To operate small vehicles:

- Designed to carry 15 or more people including the driver; or
- Which carry 15 or fewer people, including the driver, transporting children to or from school and home regularly for pay; or
- Which carry hazardous materials in amounts requiring placarding.

What endorsements do I need on my CDL?

In addition to the appropriate CDL group designation, endorsements are required for the following:

T **DOUBLE or TRIPLE TRAILERS (Triple trailer** combination's are not permitted in, Michigan)

P **PASSENGER:** For vehicles that are designed to carry more than 16 people (including the driver); or those that carry 15 or fewer people (including the driver) transporting children to and from school and home on a regular basis for compensation. (The “A” designation is needed when a bus is pulling a trailer over 10,000 lbs. GVWR.)

N **TANK VEHICLE:** *For vehicles designed to haul liquids or liquefied gases in permanent mounted tanks of any size or portable tanks rated at 1,000 gallons or more.*

H **HAZARDOUS MATERIALS:** To carry hazardous materials in amounts requiring placarding trucks, pickup trucks and passenger vehicles.)

X An "**X**" endorsement will appear on the license instead of the **H** and **N** codes when an applicant receives both the tanker and hazardous materials endorsements.

Air Brakes: If the vehicle is equipped with air brakes, you will need to take the skills and knowledge parts of the CDL test that refer to air brakes. No actual endorsement is added to the license; however, if you do not pass the air brake portion of the test, a restriction will be placed on the back of your license that states, *"May not operate a vehicle equipped with air brakes."*

Farm Endorsements, Seasonal Restrictions and Exemptions

Refer to the Michigan Commercial Driver License Manual available at any Secretary of State office.

Driver Qualifications

State and federal safety regulations require drivers of commercial motor vehicles (see definitions) to meet certain minimum standards. Motor carriers (employers) must document and maintain each driver's qualifications in a driver qualification file. A motor carrier shall not require or permit a person to drive a commercial motor vehicle unless that person is qualified. A motor carrier who employs himself/herself as a driver must comply with both the rules that apply to motor carriers and the rules that apply to drivers.

A qualified driver must be at least 21-years-old to operate in interstate commerce.

- Be 18-years-old to operate in intrastate commerce.
- Be 21-years-old to transport hazardous material if the vehicle requires placarding.
- Read, speak and understand the English language well enough to communicate with he general public and regulatory officials, and to respond to inquiries and make entries on reports and records.
- Be able to operate the commercial motor vehicle safely.
- Have the ability and training to safely load and secure cargo.
- Possess a valid driver's license for the type of vehicle he/she is to operate.

  Note: Some CDL drivers are subject to drug and alcohol testing. These drivers must pass a pre-employment drug test.

A driver qualification file must contain, but is not limited to:

- A driver's application for employment.
- Inquiries to and responses from past employers.
- A copy of the driver's motor vehicle report obtained from the state (annual).
- The driver's report of violations (annual).
- Employer's review of driving record (annual).
- Medical Examiners Certificate or waiver.
- Proof of a road test or equivalent.
- Driver data sheet.

- Drivers certificate of compliance.
- Documentation of hazardous material training (if required).
- Documents and records pertaining to drug and alcohol testing, if testing is required.
- Driver motor vehicle reports ran be obtained by contacting:

MICHIGAN DEPARTMENT OF STATE
7064 Crowner Drive
Lansing, MI 48918
(517) 322-1166

Drug And Alcohol Testing

Federal Motor Carrier Safety Regulations, Part 382
Summary

Effective: March 17.1994

A comprehensive set of federal regulations require persons (drivers, mechanics) holding a Commercial Driver License (CDL) and who operate a commercial motor vehicle (as defined in the *Federal Motor Carrier* Safety *Regulations,* Part 383, to be tested for controlled substances and alcohol. These rules preempt any state testing requirements and apply to both interstate and intrastate drivers. They include but are not limited to: for hire and private carriers; federal, state and local governments; beekeepers; civic organizations; churches; ramps; Indian tribes; farmers; and custom harvesters and school buses.

Companies that employ these persons must establish a drug and alcohol testing program (as prescribed in Part 382) and conduct pre-employment, random, reasonable cause, post-accident, return-to-duty and follow-up drug and alcohol testing. A person who fails a required test or refuses to test is considered medically unqualified to operate a Commercial Motor Vehicle.

Essential to an employers drug and alcohol testing program are the requirements for a written policy concerning drug and alcohol testing, driver and supervisor education and a scientifically conducted random selection process. Additionally an employer will need to contract with qualified drug and alcohol collection facilities, certified laboratories, medical review officers and substance abuse professionals. Maintaining accurate records is critical to ensuring compliance with these rules.

Companies can establish and conduct the drug and alcohol-testing program in-house or may contract with a third party (consortium) to facilitate a drug and alcohol-testing

program. Most companies subject to these rules use the services of a third party. *(Owner-operators or companies with only one driver must join a consortium.)*

Michigan Alcohol Laws

Michigan Vehicle Code

Out of Service Violations
You will be placed out-of-service for 24 hours if you:

- Refuse to take a preliminary breath test (PBT);
- Consume alcohol within 4 hours prior to operating a commercial motor vehicle (CMV);
- Consume alcohol while operating a CMV;
- Are found to have a bodily alcohol content (BAC) of.015 grams while operating a CMV.

Other Alcohol Violations
If you have consumed too much alcohol, you can be charged with:

- Operating with an unlawful bodily alcohol level (UBAL) -.10 grams or more.
- Operating under the influence of alcohol (OUIL).
- Operating while impaired (OWI) - BAC greater than .07 **but** less than .10 grams.
- Operating with a BAC of .04 -.07 grams.
- OUIL, OWI or UBAL causing death or serious injury.

If you are **convicted of any of the alcohol offenses** listed above or refuse a chemical test, your CDL will be:

- Suspended for 1 year for a first offense.
- Suspended for 3 years if transporting hazardous material.
- Revoked for a minimum of 10 years for a second or third offense.

Driver's Hours of Service
Federal Motor Carrier Safety Regulations

Federal and state safety regulations limit a driver to the number of hours he/she can work. This means that once a driver has worked a prescribed number of hours he/she is no longer eligible to drive until he/she has met the off-duty requirements established in the regulations. Accurate time records (for each driver) must be maintained at the employer's principal place of business for a period of at least 6 months and employers must ensure that driver compliance is met.

Hours of service regulations are arguably the hardest regulations to understand. Compliance is best achieved by being familiar with the complete text of these regulations.

Exemption from hours of service

Certain commercial motor vehicle drivers may be totally or partially exempt from the hours of service regulations. They include:

- farm vehicle drivers
- mechanics
- tow truck operators
- government employees
- seasonal construction workers
- driver-salespersons
- retail beverage delivery workers
- cable TV service workers
- home heating fuel workers
- public utility and telephone service workers

Duty status

Driving
All time spent at the driving controls of a commercial motor vehicle in operation.

On-duty
All time from the time a driver begins to work or is required to be in readiness for work until relieved from all the responsibilities for performing work. On duty includes:

1. driving
2. performing any and all other duties required by the carrier
3. time spent traveling to, from and during the course of providing breath and/or alcohol specimens for drug and alcohol tests required under federal regulations
4. performing any compensated work for any non-motor carrier entity (part-time jobs)

Off-duty
When relieved of all responsibility for performing work by the employer and not performing any other compensated work.

Sleeper berth
A sleeping compartment conforming to *Federal Motor Carrier Safety Regulations.*

Maximum driving & on-duty rules

- A driver shall not drive a commercial motor vehicle more than 10 hours during any work period and must have 8 consecutive hours off duty before he/she is eligible to drive again.

- A driver shall not drive a commercial motor vehicle after being on-duty 15 hours in any work period and must have 8 consecutive hours off-duty before he/she is eligible to drive again.

- A driver shall not drive a commercial motor vehicle after being on-duty 60-hours in any 7 consecutive days or 70-hours in any 8 consecutive days.

  (Only carriers operating trucks 7 days a week may use the 70-hour rule.)

Logbook requirements

- The daily log is an accurate and complete record of a driver's activities for each 24-hour period.

- Unless exempt, (see exemptions, next page), all drivers must record their duty status using the daily logbook.

- All entries in the logbook shall be accurate, legible and in the driver's own handwriting.

- Employers must retain the daily logs at their principal place of business (previous 6-months).

- Employers must maintain supporting documents to verify the logs are true and accurate.

Logbook exemptions
Some drivers are excluded under state and federal regulations from having to complete the daily logbook, provided they meet certain requirements. These exempt drivers must:

1. Operate within a 100 air-mile radius of their normal work reporting location, and

2. Leave and return to the work reporting location and be released from duty within 12 consecutive hours, and

3. Obtain at least 8 consecutive hours off duty between each 12 consecutive hours on duty, and

4. Not drive more than 10-hours during any 12 consecutive hours on duty.

Note: A driver who would normally meet these requirements, but occasionally would not, needs to complete a daily log just on the days he/she is unable to meet the requirements. The driver would not need the previous 7 days' logs in this situation.

Employers must retain accurate and true time records (time card/time sheets) for each driver meeting this exemption. The employer must always have the previous 6 months' records on file. These records must indicate:

- Driver's name
- Time the driver reports for duty each day
- Time the driver is released from duty each day
- Total on-duty hour's each day

Note: Although some drivers may not need to complete the logbook, they still must comply with the 60 or 70-hour rule and the 10-hour driving rule.

Hazardous Materials Regulations

General Information

Many items which we routinely handle (I.e., gasoline, propane, glues, paint, thinners, cleaning solvents, etc.) are often take for granted and become a complex area of compliance when they are being transported in commerce. When these items and others like them are transported on a vehicle and the vehicle is being operated in a business enterprise, the vehicle, the driver and the company are subject to the Federal Hazardous Materials Regulations (FHMR).

Effective October 1, 1998, the U.S. Department of Transportation (USDOT) has jurisdiction overall interstate and intrastate hazardous materials transportation. Regardless of what regulations an individual state may have, compliance with federal regulations is required. Furthermore, the USDOT may void any state regulations that are not consistent with federal regulations.

Hazardous Material Regulations compliance includes: Carrier registrations, oil spillage plan, incident reporting, classification, shipping papers, marking, labeling,

placarding, emergency response procedures, employee training, package specification and modal requirements.

Federal Safety Regulations compliance includes: Insurance requirements, licensing of drivers and transportation requirements.

It is important for carriers who transport hazardous materials or hazardous waste to have a good understanding of the many regulations, which govern their transportation.

Hazardous Materials Regulations

Railroad Crossings

Michigan law requires any vehicle that is marked or placarded (including anhydrous ammonia tanks) to stop prior to crossing a railroad grade. Marking includes identification numbers, shipping names, "HOT" symbols, **"Marine Pollutant"** symbols and any other markings required under Hazardous Materials Regulations. Placarding includes any placards required under Hazardous Materials Regulations.

Michigan Highway Routing Restrictions

The following routes are prohibited for loads of flammable liquids or explosives:

M-10 (Lodge Freeway, Detroit)

1. Between 8 Mile Rd. and Wyoming Rd., and
2. Between Howard St. and Woodward Ave. (under Cobo Hall)

I-96 (Detroit)

Between M-10 and 1-75

Michigan Bridge/Tunnel Restrictions

Ambassador Bridge Detroit (313) 849-5244	PROHIBITED corrosives, explosives, radioactives, flammables
Windsor Tunnel Detroit (313) 567-4422	PROHIBITED corrosives, explosives radioactives, flammables
Mackinaw Bridge Mackinaw City (906) 643-7600	PLACARDED LOADS escort vehicle required
International Bridge	PLACARDED LOADS

Sault Ste. Marie (906) 635-5255	escort vehicle required
Blue Water Bridge Port Huron (810) 984-3131	RESTRICTIONS explosives, radioactives, organic peroxides

Questions concerning compliance requirements under the Hazardous Material Regulations?

Contact:
Sgt. David Ford - Section Commander
HAZARDOUS MATERIALS SECTION
Motor Carrier Division - Michigan State Police
(517) 336-6580

Inspection, Repair & Maintenance

Federal Motor Carrier Safety Regulations

General Requirements

- Motor carriers shall systematically and routinely inspect, repair and maintain all commercial motor vehicles (CMV) subject to their control. (This includes towed units.)
- All vehicle parts and accessories that may affect safety must be in safe working condition at all times.
- Push out windows, emergency doors and emergency door marking lights in buses must be inspected at least every 90 days.
- Drivers are required to inspect all CMVs that they operate daily (pre-trip and post-trip).
- Carriers must ensure all CMVs pass an annual inspection performed by certified inspector.
- Carriers must maintain a maintenance file for all CMVs under the carrier's control. The file shall contain all records of inspection, repair and maintenance in accordance with the requirements set forth in the *Federal Motor Carrier Safety Regulations.*

Post-trip inspection

- Every driver must perform and document a vehicle inspection at the end of each day that a vehicle is operated. Records should be retained for three-months.

- The inspection report must identify the CMV and list any defect that affects the safe operation of the vehicle.

- A copy of the report must be maintained in the vehicle's maintenance file. **It is no longer a requirement to carry a copy of the report on the vehicle.**

Pre-trip inspection
Before driving a CMV, a driver must:

- Be satisfied the vehicle is in safe operating condition.
- Review and sign the last post-trip inspection report.

Minimum inspection requirements
As a minimum, the post-trip inspection shall include the following parts and accessories:

- Service brakes; including trailer brake connections
- Parking (hand) brake
- Steering mechanism
- Lighting devices and reflectors
- Tires
- Horn
- Windshield wipers
- Rear vision mirrors
- Coupling devices
- Wheels and rims
- Emergency equipment

Carriers should require these same items (company policy) as minimums for the pre-trip inspection.

Annual inspection
The annual or periodic inspection must be performed at least every 12 months. A qualified inspector, who is familiar with the procedures and tools necessary to perform the inspection, must perform the inspection. Proof of the inspection must be carried on the vehicle and a copy maintained in the vehicle maintenance file.

The requirements for the annual inspection may be met by:

- Passing a CVSA level-1 roadside inspection.

- Contracting with a qualified commercial garage.

- Self-inspection performed by a qualified employee of the carrier.

If the annual inspection is performed by the carrier or contracted to a commercial garage, the carrier must ensure that the person performing the inspection meets the minimum inspector requirements established in the *Federal Motor Carrier Safety Regulations* for performing annual inspections and brake inspections.

The inspector's qualifications must be documented and maintained at the carrier's place of business.

Mud Flaps

Michigan Vehicle Code

When using a highway, a commercial motor vehicle, shall be so constructed or equipped as to prevent water or other road surface substances from being thrown from the rear wheel of the vehicle or combination at tangents exceeding 22.5 degrees measured from the road surface. The device also may not extend beyond the 96-inch maximum width of the vehicle of combination. If a flap type device is used, it shall not have attached any type of lamp, breakable reflective material or reflecting buttons.

The following vehicles are exceptions to the mud flaps' regulation above: (1) a truck-tractor traversing between terminals at a speed not to exceed 25 miles per hour; and, (2) a combination of a commercial vehicle and trailer or semi-trailer.

Brakes

Federal Motor Carrier Safety Regulations

General requirements All commercial motor vehicles (including trailers) must be equipped with brakes acting on all wheels. These brakes must be capable of operating at all times.

Exceptions

- A truck or truck tractor which has 3 or more axles and was manufactured before July 25, 1980 does not have to have brakes on the front axle, provided all brake components except the spider and drum-have been removed.

- Any full trailer, any semi-trailer or any pole trailer having a gross vehicle weight rating (GVWR) of 3,000 pounds or less does not have to have brakes if the weight of the towed vehicle resting on the towing vehicle does not exceed 40% of the towing vehicle's GVWR.

- Disabled vehicles being towed.

Note: There are some exceptions for vehicles in a drive-away/tow-away operation. Complete details of all exemption can he found in the *Federal Motor Carrier Safety Regulations.*

Breakaway and emergency braking

Every commercial motor vehicle, if used to tow a trailer equipped with brakes, shall be equipped with means for providing that in the case of a breakaway of the trailer, the service brakes on the towing vehicle will be sufficiently operative to stop the towing vehicle.

Every trailer required to be equipped with brakes shall be equipped with brakes so that, upon breakaway from a towing vehicle, all trailer brakes shall automatically and promptly engage and then remain engaged for at least 15 minutes.

Warning devices and gauges

In general, a bus, truck or truck tractor must be equipped with a signal that provides a warning to a driver when a failure occurs in the vehicle's braking system.

- A vehicle equipped with **hydraulic brakes** and manufactured after July 1, 1973 is required to have **visual or audible** warnings that indicate brake system failure when the brake is applied.

- Any vehicle equipped with **air brakes** or a vehicle that tows a vehicle with **air brakes** must have a continuous **visual or audible** warning device that alerts a driver when the air pressure in the brake system is low. The vehicle must also have an air **pressure gauge.**

- Any vehicle equipped with **vacuum brakes** or a vehicle that tows a vehicle with **vacuum brakes** must have a continuous **visual or audible** warning device that alerts a driver when the vacuum supply reservoir is low. The vehicle must also have a **vacuum gauge.**

- A vehicle having an **air or vacuum assisted hydraulic** system must have warning signals and devices that meet all of the above requirements.

Note: You will need to consult the federal Motor Carrier Safety Regulations for complete details concerning warning devices and gauges.

Safety Devices

Federal Motor Carrier Safety Regulations (FMCSR)

The FMCSR require the use of safety devices on towed vehicles which, when properly connected to the towed and towing vehicles and the coupling device, prevent the coupling device from dropping to the ground in the event it fails or becomes

disconnected.

If the safety device is too long and the coupling device fails or disconnects, the tow bar would be able to make contact with the ground, causing the towed vehicle to totally disconnect from the towing vehicle.

Crossing safety devices

- The design of the towed vehicle and/or the type of coupling device used will determine whether the vehicle combination requires **one or two safety devices** (see FMCSR for details).

- When two safety devices are required, **it may be necessary to cross the safety devices.**

- Should the coupling device become detached during travel, crossed safety devices will minimize the lateral movement of the towed vehicle.

Load Securement

A person shall not drive or move a vehicle on a highway unless the vehicle is so constructed or loaded as to prevent its contents from dropping, sifting, leaking, blowing off or otherwise escaping from the vehicle. This would include the use of tarps, chains, binders, tie downs and other approved securement devices to ensure the load is secure. Trapping and loading requirements of logs and tubular products are found in the **Michigan Vehicle Code.** General rules for **load securement,** types of load securement systems, and blocking and bracing are found in the **Federal Motor Carrier Safety Regulations (FMCSR).**

General load securement (not complete)

- One approved tie down/securement device for each 10 linear feet of load.

- One approved tie down/securement device for each 8 linear feet of metal article weighing more than 2,000 pounds (see the *Federal Motor Carrier Safety Regulations* for entire rule).

- Tie down assemblies must be of adequate number and **working load limit** strength to prevent a load from shifting or failing.

- The total **working load limit** of the tie down assemblies used to secure an article against movement, in any direction, must be at least 1/2 times the weight of the article.

- A firmly secured canvas or similar type covering shall cover a vehicle carrying a

load (other than logs or tubular products) that is not completely enclosed. Or it shall have the load securely fastened to the body or frame of the vehicle to prevent the load from dropping off or shifting: exceptions, see **Trapping below.**

- Every cargo-carrying motor vehicle must be equipped with a header-board **or similar device** to prevent load shifting and penetrating or crushing the driver's compartment.

Some vehicles are exempt from this requirement; see the *Federal Motor Carrier Safety Regulations* for complete requirements.

Tarp

A device used to roll the tarp or covering may not exceed 108" in width.

If the material is heavy enough that it will not blow off (i.e. boulders, barrels, firewood, cement **blocks, etc.) and the center of gravity of the material is at least 6** inches below the top of the vehicle body, it need not be covered.

A person transporting agricultural commodities or a person operating a farm truck or implement of husbandry to transport sand, gravel or dirt necessary in the normal operation of a farm is not required to have the load covered. **However,** the load cannot blow off, spill or escape from the vehicle. **This would not include hay, straw, silage or residue from a product (but not the product itself) or materials, such as water, used to preserve products that escape from the vehicle and do not interfere with highway traffic.**

A vehicle engaged in highway construction or maintenance work need not be covered if being operated in a designated work area or if the vehicle is being used in ice and snow removal.

Tie Down, Stake and Cross Chain Materials

Tie downs. cross chains, stakes and other materials used to secure loads of logs or tubular products shall meet the minimum requirements:

a. Chain shall be of a strength not less than 5/16inch diameter "transport" which is embossed with a grade stamp signifying grade 70, or not less than a 3/8-inch diameter "high test" which is embossed with a grade stamp signifying grade 40. Chains shall not be repaired by welding, wire, or cold-shuts.
b. Wire rope shall be of improved plow steel and not less than 3/8-inch in diameter.

c. Webbing strap shall not be less than 3 inches in width and shall have a minimum breaking strength of 14,000 pounds.

Weight and Axle Loads (State Highways)

Frost law restrictions
During the time spring weight restrictions are in effect on frost-restricted routes, axle loading is reduced by 25% on rigid based roads and 35% on flexible based roads. Most restricted state highways and county roads reduce axle loading by 35%. Speed limits on frost restricted routs are reduced to 35 mph for every vehicle over 10,000 lbs. gross weight.

County and city weight limits
Allowable axle weights on local roadways must be consistent with state law, but final weight determinations are the responsibility of the local jurisdictions. The limitation of 700 lbs. per inch of tire width still applies. "Access" to and from state or federal highways on local roadways cannot be assumed. Local jurisdictions also apply width and length limitations to their roadways and retain the authority to issue or deny special permits. You should contact the appropriate jurisdiction for specific information prior to movements upon local roadways.

Frequently Asked Questions

1. Can flares be used? Yes. ("FMCSR")

§393.95 Emergency equipment on all power units.

Except for a light lightweight vehicle, every bus, truck, truck-tractor, and every driven vehicle in a drive-away and/or tow-away operation must be equipped as follows: . . . (f) Warning devices for stopped vehicles. . **. Except** as provided in paragraph (g) of this section, one of the following combinations of warning devices:

(1) **Vehicles equipped with warning devices on and after January 1, 1974**.

(i) Three bi-directional emergency reflective triangles that conform to the requirements of Federal Motor Vehicle Safety Standard No. 125, §571.125 of this title; or

(ii) At least 6 fuses or 3 liquid burning flares. The vehicle must have as many additional fuses or liquid-burning flares as are necessary to satisfy the requirements of §392.22.

2. Are drivers required to wear seat belts? Yes.

§392.16 Use of seat belts. A commercial motor vehicle which has a seat belt assembly installed at the driver's seat shall not be driven unless the driver has properly restrained himself/herself with the seat belt assembly. *Note: After October 1, 1999, violating the seat belt law will be a "primary" traffic violation in Michigan.*

3. Are emergency drivers exempt from the "hours of service" rules? Yes.

§395.1 Hours of service. (a)(2) **Emergency conditions**. In case of any emergency, a driver may complete his/her run without being in violation . . .

4. How long must we keep inspection records? Three-months.

§396.11 (c)(2) Every motor carrier shall maintain the original driver vehicle inspection report, the certification of repairs, and the certification of the driver's [*pre-trip*] review for three months from the date the written report was prepared. (Pre-trip (or "review") inspection can be visual, unless the need for repair was noted on the post-trip inspection. In that case, the pre-trip inspection is referred above, §396.11 (c)(2), as "the certification of the driver's review." And it also must be retained for 3 months.)

MOTOR CARRIER SAFETY COMPLIANCE CHECKLIST

LICENSING OF DRIVERS

___ vehicles 26,000 lbs. GVWR and under; chauffeur license or operators license
___ vehicles over 26,000 lbs. GVWR or GCWR; chauffeur or operator with CDL designation - FMCSR 383

INSURANCE - FMCSR Part 387

___ minimum levels of financial responsibility . . . MCS-90 or MCS-82 form on file

DRIVER QUALIFICATION FILES - FMCSR Part 391

___ application for employment (list of employers for prior 3 yrs.; if CDL 10 yrs.)
___ inquiries and responses to past employers (for prior 3 yrs.)
___ inquiries and responses to state agencies (individual driving records
___ driver's report of driving violations
___ employers annual review of driving record
___ medical examiner's certificate or letter granting waiver
___ certificate of road test or equivalent (Dbls/Tpls & Tankers must be road tested)
___ driver data sheet
___ notice to driver & certificate of compliance
___ driver drug and alcohol testing records/results - (FMCSR Part 382)
___ documentation of HazMat training (HMR §177.816)

HOURS OF SERVICE OF DRIVERS - FMCSR Part 395

___ document compliance with hours of service limits (60/70 hr; 10/15hr)
___ retain previous 6 mos. hours of service and supporting documents (logs or time cards)
___ retain all supporting documents

INSPECTION, REPAIR AND MAINTENANCE - FMCSR Part 396

___ systematically inspect, repair and maintain vehicles under carriers control (written

maintenance schedule)
___ complete/accurate vehicle maintenance records
___ retain driver's daily vehicle inspection reports
___ performed annual inspections on all vehicles (trucks, tractors, and trailers) and maintain proof of inspection in each vehicles maintenance file and on vehicle
___ maintain certification of person/s performing annual vehicle inspections and brake inspections

DRUG AND ALCOHOL TESTING - FMCSR Part 382

___ administrative records: policies; procedures; random selection process; contracts/agreements with collection facilities, laboratories, MROs, BATs, SAPs, consortiums, and supervisor training
___ maintain individual drug and alcohol test results as part of the driver file: authorization from prospective employees for release of drug and alcohol information from previous employers; inquiries/responses from previous employers concerning drug and alcohol information; pre-employment analysis consent form; chain of custody forms; individual drug and alcohol test results; documentation of refusals to test; documentation of required tests that were not performed; referrals to and evaluation reports of SAP; compliance with SAP determination; documentation of reasonable suspicion testing; signed receipt for educational material

ACCIDENT RECORDING - FMCSR Part 390
___ maintain register of all recordable accidents, along with police and insurance reports (FMCSR §390.5 and §390.15)

HAZARDOUS MATERIALS - HMR Parts 100 – I99

___ carrier registration HMR Part 171 (if required)
___ incident and accident records/documents (HMR Part 171)
___ hazardous materials training of employees (HMR Part 172 Subpart H)
___ hazardous material shipping papers (HMR §172 200 and §177.817)
___ emergency response information (HMR §172,600)
___ labels and placards (HMR Part 172 Subparts E & F)

APPENDIX

Back Injury Prevention – Safety Training Overview

N.S.C. Statistics: (1993)
800,000 injuries per year (double others)
24% of all work accidents
31% of all compensation

Causes of Injury:

1. Excessive weight
2. Improper body movement
3. High frequency of lifts

Causes of Pain:

1. Herniated disk
2. Ruptured disk
3. Wedge shaped disk

7 Means of Control:

1. Hiring practices
2. Training practices
3. Medical management
4. Exercise
5. Posture: standing and sitting
6. Investigating back injuries
7. Basic Approach to Remedy Hazards:
    a. Engineering Remedy
    b. Ergonomics Remedy
    c. Administrative Remedy
    d. PPE Remedy

Bloodborne Pathogens – Safety Training Overview

Goal: To protect people from exposure to infectious blood and other body fluids during job performance.

Program Elements:

- Hepatitis B Vaccination
- Exposure Determinations
- Control Methods
- Post-Exposure and Evaluation Follow-up
- Infectious Waste Disposal
- Housekeeping Practices
- Laundry Practices
- Training and Education of Employees
- Record keeping

BLOODBORNE INFECTIOUS DISEASES EXPOSURE CONTROL PLAN FOR EMPLOYERS WITH LIMITED EMPLOYEE EXPOSURE

BIOHAZARD

Note: This document is intended as a compliance guide for MIOSHA Occupational Health rule 325.70001-70018, Bloodborne Infectious Diseases. This guide does not substitute for a full reading of the standard. This document is provided as an informational service under the authority of Public Act 154 of 1974. Its purpose is to aid in the development of written programs related to Bloodborne infectious diseases. This program is designed to be adapted to each individual employer's need; forms should be shortened, expanded, or duplicated as needed.

This sample plan is provided as a guide to assist employers who have a nurse or small first aid team and perform occasional limited medical and associated waste products. Any statement retained from this guide will be considered to be in place and verifiable.

Company Name: _____

Date of Preparation: _____

EXPOSURE DETERMINATION

The following employee job classifications at this company are Category A due to expected occupational exposure to blood or other potentially infectious material (OPIM)* regardless of frequency. The exposure determination is made without regard to the use of personal protective equipment:

Category "A" Job Classification	Rationale/Task
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Compliance Methods

Universal precautions will be observed at this company in the prevision of first aid, the removal of sharps and waste from the first aid station, and the housekeeping of any first

aid area in order to prevent contact with blood or OPIM. All blood and OPIM will be considered infectious regardless of the perceived status of the source individual.

Engineering and work practice controls are limited to hand washing and housekeeping practices. Where scissors are used in a medical procedure and become contaminated they will be decontaminated using a germicide approved by the Environmental Protection Agency.

Hand washing facilities are available to the employees who incur exposure to blood or other potentially infectious materials. MIOSHA requires that these facilities be readily accessible after incurring exposure. At this company, hand-washing facilities are located:

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

Upon providing first aid or incurring exposures when hand-washing facilities are not feasible, the employer is required to provide either an antiseptic cleanser in conduction with a clean cloth/paper towels or antiseptic towelettes. If these alternatives are used, then the hands are to be washed with soap and running water as soon as feasible.

After removal of personal protective gloves, employees shall wash hands and any other potentially contaminated skin area immediately or as soon as feasible with soap and water.

If employees incur exposure to their skin or mucous membranes, then those areas shall be washed or flushed with water as appropriate as soon as feasible following contact.

Needles

Are not used in this company (chose one). If used, they must not be recapped unless required by medical procedure, must not be bent or broken and must be disposed of in a labeled, close-able, leak-proof, puncture-resistant container.

Work Area Restrictions

In work areas (i.e. nurse's office) where there is a reliable likelihood of exposure to blood or other potentially infectious materials, employees are not to eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses.

Personal Protective Equipment

All first aid personal protective equipment used in patient treatment, first aid or housekeeping involving blood or OPIM at this company will be provided without cost to employees. Personal protective equipment will be considered appropriate only if it does not permit blood or OPIM to pass through or reach the employer's clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Protective clothing will be provided to first aid and housekeeping employees involved in first aid in the following manner: (list how the clothing will be provided to employees, e.g. who has responsibility for distribute, etc. And also list which procedures would require the protective clothing and the type of protection required, this could also be listed as an appendix to this program)

The following PPE is used in this company:

	Task
Personal Protective Equipment	_____
	_____
	_____
Gloves	_____
	_____
	_____
Lab coat	_____
	_____
	_____
Clinic Jacket	_____
	_____
	_____
Protective Eyewear (with solid side shields)	_____
	_____
	_____
CPR (one way resuscitation shield)	_____
	_____
	_____
Utility Gloves	_____
	_____
	_____
Examination Gloves	_____

_____
_____

Other PPE (list) _____
_____
_____

All personal protective equipment will be cleaned, laundered, and disposed of by the employer at no cost to employees.

All personal protective equipment will be removed prior to leaving the work area. If visibly contaminated, the equipment shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal. The following procedure has been developed to facilitate leaving the equipment at the work area: (list where employees are expected to place the personal protective equipment upon leaving the work area):

If an employee were to have another person's blood or OPIM splash or soak their clothing, they would make arrangements to remove the contaminated clothing as soon as possible. This clothing would be laundered at the employer's expense. The clothing would be identified as contaminated and any employee, of any employer, exposed to it would be notified and protected from exposure.

Gloves shall be worn where it is reasonably anticipated that employees will have hand contact with blood, other potentially infectious materials, non-intact skin, and mucous membranes. Gloves will be available from (state location and/or person who will be responsible for distribution of gloves)

Disposable gloves used at this company are not to be washed or decontaminated for re-use and are to be replaced as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. Utility gloves may be decontaminated for re-use provided that the integrity of the glove is not compromised. Utility gloves will be discarded or when their ability to function as a barrier is compromised.

Housekeeping

First aid stations and areas involved in a first aid incident will be cleaned and decontaminated according to the following schedule: (list area and schedule) Decontamination will be accomplished by utilizing the following materials: List the materials that will be utilized, such as bleach solutions or EPA registered tuberculocidal germicides. If a bleach and water solution between 1:100 and 1:10 is used, it must be prepared on as needed bases. Bleach loses its disinfectant quality when stored in water.

All contaminated work surfaces will be decontaminated after completion of procedures and immediately or as soon as feasible after any spill of blood or OPIM materials, as

well as the end of the work shift if the surface may become contaminated since the last cleaning.

Regulated Waste Disposal

All bins, pails, cans, and similar receptacles for regulated waste disposal in the first aid station or any area normally involved in first aid shall be appropriately colored or labeled as containing biohazards and shall be inspected, emptied and decontaminated on a regularly scheduled basis. Disposal of feminine hygiene products and bandages or Kleenex used in self-administered first aid (bloody nose, small cut) are not considered regulated waste and will be disposed of in the normal waste stream. List frequency and job location of designated biohazard disposal areas:

_____
_____
_____
_____

Standard Operating Procedures

Standard operating procedures (S.O.P.'s) provide guidance and information on the anticipated first aid tacks assigned to our employees. They will be based on the form found in Appendix A and will be utilized in employee training.

Contingency Plans

Where circumstances can be foreseen in which recommended standard operating procedures could not be followed, the employer shall prepare contingency plans for employee protection, incident investigation and medical follow-up. See Appendix A.

Hepatitis B Vaccine

All employees who have been identified as having exposure to blood or OPIM will be offered the Hepatitis B vaccine, at no cost to the employee. The vaccine will be offered within 10 working days of their initial assignment to work involving the potential for occupational exposure to blood or OPIM unless the employee has previously had the vaccine, is allergic to the vaccine or wishes to submit to antibody testing which shows the employee to have sufficient immunity.

Employees who decline the Hepatitis B vaccine will sign a copy of the attached waiver.

Employees who initially decline the vaccine but who later wish to have it may then have the vaccine provided that no cost.

Vaccination Option for Employers:

Has responsibility for assuring that the vaccine is offered, the waivers are signed, etc.

An employer may elect to postpone the administration off the hepatitis B vaccine if the following conditions exist:

- The primary job assignment of such designated first aid providers is not the rendering of first aid.

- Any first aid rendered by such persons is rendered only as a collateral duty responding solely to injuries resulting from workplace incidents, generally at the location where the incident occurred.

Full training and personal protective equipment shall be provided to these employees.

Provision for a reporting procedure that ensures that all first aid incidents involving the presence of blood or OPIM will be reported to the employer before the end of the work shift during which the first aid incident occurred.

The report must include the names of all the first aid providers who rendered assistance, regardless of whether personal protective equipment was used and must describe the first aid incident, including the time and date.

Provision for the full Hepatitis B vaccination series to be made available as soon as possible, but in no event later than 24 hours, to all unvaccinated first aid providers who have rendered assistance in any situation involving the presence of blood or OPIM regardless of whether or not a specific “exposure incident,” as defined by the standard, as occurred.

In the event of a bonafide exposure incident, the portion of the standard relating to post-exposure evaluation and follow-up would apply.

Post-Exposure Evaluation and Follow-up

When an employee incurs and exposure incident, it must be reported to (list who has responsibility to maintain records of exposure incidents):

All employees who incur an exposure incident will be offers post-exposure evaluation and follow-up by a licensed physician in accordance with the MIOSHA standard.

This follow-up will include the following:

- Documentation of the route of exposure and the circumstances related the incident.

- If possible, the identification of the source individual and, if possible, the status of the source individual. The blood of the source individual will be tested (after consent is obtained) for HIV/HBV inactivity.

- Results of testing of the source individual will be made available to the exposed employee with the exposed employee informed about the applicable laws and regulations concerning disclosure of the identity and infectivity of the source individual. Employers may need to modify this provision in accordance with applicable local laws in this subject. Modifications should be listed here:

  _____
  _____
  _____
  _____
  _____
  _____

- The employee will be offered the option of having their own blood collected for testing of their HIV/HBV serological status. The blood sample will be preserved for at least 90 days to allow the employee to decide if the blood should be tested for HIV serological status.

  However, if the employee decides prior to that time that testing will be conducted then the appropriate action can be taken and the blood sample discarded.

- The employee will be offered post exposure prophylaxis in accordance with the current recommendations of the U.S. Public Health Service in consultation with licensed physician treating the exposed employee.

- The employee will be given appropriate, confidential counseling concerning precautions to take during the period after the exposure incident. Counseling on risk reduction and the risks and benefits of HIV testing in accordance with state law. The employee will also be given information on what potential illnesses to be alert for and to report any related experiences to appropriate personnel.

- The following person(s) has been designated to assure that the policy outlined here is effectively carried out as well as to maintain records related to this policy.

Interaction with Health Care Professionals

An employer shall ensure that the health care professional who is responsible for the hepatitis B vaccination is provided with a copy of these rules and appendices. A written opinion shall be obtained will be obtained in the following instances:

1) When the employee is sent to obtain the Hepatitis B vaccine; and

2) Whenever the employee is sent to a health care professional following an exposure incident.

Health care professionals shall be instructed to limit their written opinions to:

1) Whether the Hepatitis B vaccine is indicated and if the employees has received the vaccine, or for evaluation following an incident;

2) A statement that the employee has been informed of the results of the evaluation;

3) A statement that the employees have been told about any medical conditions resulting from exposure to blood or other potentially infectious materials. (Note: The written opinion to the employer is not to reference any personal medical information.); and

4) Any limitations on the employee's use of personal protective clothing or equipment.

Training

Training for all Category A employees will be conducted prior to initial assistance to tasks where occupational exposure may occur. Training will be conducted in the following manner:

1) The MIOSHA standard for Bloodborne Infectious Disease

2) Epidemiology and symptomatology of bloodborne diseases

3) Modes of transmission of bloodborne pathogens

4) This Exposure Control Plan, (i.e. points of the plan, lines of reproncibility, how the plan will be implemented, access to the plan, etc.)

5) Procedures which might cause exposure to blood or other potentially infectious materials at this facility.

6) Control methods which will be used at the facility to control exposure to blood or other potentially infectious materials.

7) Personal protective equipment available at this facility and who should be contacted concerning its use.

8) Post Exposure evaluation and follow-up

9) Signs and labels used at the facility

10) Hepatitis B vaccine program at the facility

Training sessions shall afford employees ample opportunity for discussion and the answering of questions by a knowledgeable trainer.

The training shall include opportunities for supervised practice with personal protective equipment and other equipment which is designed to reduce the likelihood for exposure and which will be used in the employee's work.

Employers should list here if training will be conducted using videotapes, written material, etc. Also the employer should indicate who is responsible for conducting the training:

All Category A employees will receive annual refresher training. (Note: This training is to be conducted within one year of the employee's previous training.)

Recordkeeping

This company shall establish and maintain a record for each employee with occupational exposure to include:

- Name
- Social Security Number
- Hepatitis B vaccine from status
- Copies of any past exposure/evaluation or follow-up
- Employer shall ensure record confidentiality
- Kept for duration of employment plus 30 years

Training Records:

- Date(s)
- Summary of qualifications of trainers
- Names and job titles of all trainees
- Names and qualifications of trainers
- Maintain records for three (3) years

Records for this company shall be kept by _____
.

Annual reviews: Date: _____ Preformed by: _____
Date: _____ Preformed by: _____
Date: _____ Preformed by: _____

APPENDIX "A" --- Bloodborne Pathogens Standard

STANDARD OPERATING PROCEDURE FOR BLOODBORNE INFECTIOUS DISEASE CONTROL MEASURES

Task/Procedure: _____

Exposure Potential: _____

Personal Protective Equipment: _____

Use: _____

Maintenance/Disinfecting: _____

Disposal: _____

Engineering Controls: _____
_____
_____
_____

Work Practice Controls: _____
_____
_____
_____

Management of
Exposure Incidents: _____
_____
_____
_____

Contingency Plan: _____
_____
_____
_____

Employer and Address

_____
_____
_____

HEPATITIS B

Vaccination Declination

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with the hepatitis B vaccination at this time. I understand that my declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.
Printed Name:

Job Classification: _____

Date: _____

Signature: _____

BRUSH CHIPPING & TREE TRIMMING SAFETY

1. MIOSHA Standard R408.15343, Rule 5543

- A chipper shall be equipped with a locking device (lockout/tagout) on the ignition system that shall be kept locked with the key removed when unattended.
- Access panel secured before operation.
- In feed design so that no part of the body may reach the blade.
- Chipper must be secured if not attached to a trailer.
- Flap guards shall be installed at opening.
- Chipper rotor shall be locked-out or blocked when maintenance is conducted.

2. Rule 408.10033, 33 (5)

- In feed hopper must be at least 85 inches, measured from the in feed rollers to the ground.
- Chipper must be equipped with an operating emergency stop device, which must satisfy the following requirements:

  a. Allow normal feed roller operation.
  b. Stop the feed rollers when actuated.
  c. Reverse the feed rollers when activated.

3. Personal Protective Equipment

- Eye protection
- Face protection
- Head protection
- Hand gloves closed around wrist
- Long sleeves recommended
- Respiratory protection against nuisance dust as required
- Proper signing of roadway when brushing operations infringe on the right of way

- Add those signs that will direct traffic around the work zone when work is in the county right of way (See the MMUTCD, Part 6).

4. MIOSHA Standard R408.15338

- Chippers shall be fed from the side of the centerline of the opening, and the employee feeding the chipper shall immediately turn away when the rotor takes the branch.

- No part of the body shall be placed on or near the chipping table, nor shall the discharge chute be raised while the rotor is turning.

- No foreign objects such as stones, bottles or nails shall be allowed into the chipper.

- No loose clothing or jewelry shall be worn. The chipper operator shall not wear a safety vest if it presents a hazard to the employee.

- The chipper shall be maintained within proper operating requirements. All safety equipment shall be tested prior to chipper use.

- Use manufacturer's instructions for safe operation of chipper.

PRUNING AND TRIMMING SAFETY

5. MIOSHA Standard R408.15332, Rule 5332

- A verbal warning shall occur if dropping a limb.

- A separate rope for the employee on the ground shall be provided when the limb cannot be dropped.

- Limbs shall not be left overnight – if they are left overnight, the area should be roped and barricaded.

- Whenever an employee is aloft (greater than 15 feet), a second employee or supervisor shall be within hearing distance of the employee aloft.

- Gasoline for chain saws will be stored in a self-closing safety can.

- Chain saws operated as per recognized safe experience.

- A fire extinguisher shall be selected and present at the chain saw fueling area.

6. Personal Protective Equipment

Every employee who operates a chain saw and/or is working aloft shall use the following safety equipment:

- Safety chaps
- Hearing protection
- Safety boots (special requirements for logging, Part 51)
- Vest if working in the right of way
- Head, face and eye protection
- Safety belt, safety strap, tree trimming saddle bolt and/or rope. Saddle shall be provided to the employee when he is working aloft in a tree.
- Climbing rope not less than ½ inch, 3 or 4 strand, first grade manila with normal breaking strength of 2,650 pounds. Rope must be inspected daily before use.
- Other: Signing 2-way local road/warning or as indicated in the MMUTCD, Part 6.

Dermatitis. To help prevent and treat exposure to poison ivy, oak, and sumac, I suggest that you try the products listed below. You should be able to purchase these products over-the-counter at your local pharmacy.

Product	*Company*	*Phone Number*
• *Ivy Block*	EnviroDerm	1-800-991-DERM
• *Tecnu*	Tec Labs	1-800-ITCHING

Confined Space – Safety Training Overview

Definition: A confined space is large enough for a person to enter and has limited or restricted means for entry and exit, and is not designed for continuous employee occupancy.

General Requirements:

· Survey all premises

· Classify confined spaces as to permit or non-permit

· Evaluate all hazards in each confined space

· Log listing of all known confined spaces or hazards

· Label all confined spaces

· Secure entries to confined spaces with locks

· Written Program

· Reclassification of a confined space

· Contractors provided with all necessary information

· Atmospheric Testing: i.e., pre-entry testing

· Training for all employees, contractors, etc.

GUIDELINES
for
PERMIT REQUIRED CONFINED SPACE ENTRY
WRITTEN PROGRAM

The MIOSHA Permit-Required Confined Space (PRCS) Standard that adopts federal OSHA 29 CFR 1910.146 poses several questions to employers:

1. Do you have PRCS in your workplace?
2. Will your employees enter them?
3. Do you know the hazards associated with them?
4. Do you educate and equip your employees to safely enter and perform tasks?

Affirmative answers to these questions form the basis of the written PRCS program found in paragraph (d) of the standard:

"The employer shall develop a permit required confined space program which shall:"

- Prevent unauthorized entry
- Specify acceptable entry conditions
- Specify all equipment needed to safely perform all tasks in the space assure communications capabilities
- Use personal protective equipment
- Train all affected employees
- Identify and evaluate hazards
- Maintain acceptable conditions throughout the entry
- Have available and use monitoring and ventilation equipment
- Proper lighting
- Rescue and emergency capabilities
- Control or eliminate all hazards in the space

SAMPLE
CONFINED SPACE ENTRY WRITTEN PROGRAM
for
Name: _____
Date: _____

1. POLICY

_____ is committed to providing a safe and healthful work environment for our entire staff. To achieve this goal, the following written program identifies all *Permit-Required Confined Spaces* (PRCS) and the procedures that shall be used to eliminate or control hazards associated with PRCS operations.

2. RESPONSIBILITIES

Overall Program Responsibility

Assistant Superintendent is responsible for the overall implementation and maintenance of any written program or any certification concerning the requirements of the permit-required confined space standard at our facility.

Permit-Required Confined Space Evaluation

Assistant Superintendent is responsible for evaluating the workplace to determine if any permit spaces are present:

> *A **confined space** is a space that is large enough and so configured that an employee can bodily enter and perform assigned work, and has limited or restricted means for entry or exit (for example. tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and is not designed for continuous employee occupancy.*

*A **permit space** is a confined space which has one or more of the following characteristics:*

- *Contains or has a potential to contain a **hazardous atmosphere**;*
- *Contains a material that has the potential for **engulfing an entrant**;*
- *Has an **internal configuration** such that an entrant could be **trapped or asphyxiated** by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or*
- *Contains any other **recognized serious safety or health hazard** (i.e., electrical, mechanical, etc.).*

Training

Assistant Superintendent is responsible for ensuring that all affected personnel are properly trained and that refresher training is given. Personnel who may be included are any Authorized Entrants, Attendants, Entry Supervisors, on-site rescue team members, and employees who may potentially enter the space under paragraphs (c)(5), (c)(7) or through inadvertence.

Equipment

Assistant Superintendent will ensure that all equipment needed for safe entry into any permit spaces and non-permit spaces is available and in proper working order.

Rescue Services

_____ (name and position) will ensure that rescue and emergency services have been developed either in house or contracted.

3. PERMIT SPACE EVALUATION AND CLASSIFICATION

_____ has evaluated the workplace to identify PRCS and whether their employees will enter them. It used the following criteria:

Non-permit confined *space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of death or serious physical harm. (c)(7)*

Permit spaces *can be entered using alternate procedures when:*

(a) The employer can demonstrate that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;

(b) The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry; and

(c) The employer develops monitoring and inspection data that supports the demonstrations required- (c)(5)

Permit spaces requiring a full permit-required confined space entry shall be performed in full compliance with paragraphs (d) through (k) of the standard.

See The Confined Space Identification Matrix (Appendix A) for a documentation of hazards for purposes of classifying the space.

_____ has evaluated the workplace and determined:

(Check appropriate line below:)

___ No permit-required confined space(s) exist at the work site. Appropriate documentation regarding the absence of hazardous conditions, which may include monitoring data, should be maintained to confirm non-permit stem.

___ Permit-required confined space(s) have been determined to exist.

See Appendix B for a list of all Permit Required Confined Spaces by classification and the intended entry method: Full Permit, Alternate Entry and Non-Permit

Note: If the Matrix reveals only an actual or potential atmospheric hazard exists which can be controlled by forced air ventilation the space may be entered through alternative procedures. The Division of Occupational Health handout, OH-871, Alternate Entry Procedure, (attached) lists the requirements for an alternate entry.

4. PREVENTION OF UNAUTHORIZED ENTRY

Since permit spaces were identified at our work site, _____ has informed exposed or potentially exposed employees of their existence and hazards. The method(s) that will be used:

___ Posting of danger signs at each permit space reading "Danger-Permit-Required Confined Space-Do Not Enter" or other similar language.

It has been determined by the _____ that the following permit spaces exist at our work site:

- _____
- _____, etc.

___ Our employees will not enter.

The following measures have been taken to prevent employees from entering the space(s):

- Signs have been posted.
- Entry points have been secured, so no employees can enter.

5. SAFE ENTRY CONDITIONS

Entry into PRCS shall not be attempted unless the following conditions exist:

a. Oxygen levels are between 19.5% and 23.5%.

b. Flammable gas, vapor or mist concentration is 10% or less of the lower flammable limit (LFL).

c. Concentrations of combustible dust are kept below the LFL and shall not obscure vision at distances of 5 feet or less.

d. All substances which have an OSHA PEL or ACGIH TLV, and which cause acute illness or would impair the entrant's ability to self-rescue, will be controlled within the space to a concentration equal to 50% of the PEL or TLV.

e. All electrical, mechanical and other kinetic hazards within the space shall be locked out, de-energized or safety blocked per MIOSHA safety standards.

f. Engulfment or entrapment hazards shah be eliminated or controlled.

g. All of these conditions shall be confined and noted on the Entry Permit or certification prior to entry.

6. SAFE ENTRY PROCEDURES AND EQUIPMENT

Safe entry procedures have been developed for each permit space at our facility. These procedures specify the proper methods and equipment necessary to conduct the entry operation in a safe manner.

Where hazards posed, tasks performed and/or equipment and training needed are similar, the procedures would cover multiple spices. Where specific written entry procedures have been developed, they should be attached to this program.

They indicate the specific PRCS they apply to.

The written entry permit exercised and reviewed prior to each entry is the checklist utilized to ensure all the procedural steps for a safe entry have been taken.

Appendix C lists the variety of equipment available for use in PRCS entries. The Training Section 9 lists the training to be used to certify the skills, knowledge and understanding required to perform certifications and entries.

7. HOST EMPLOYER'S RESPONSIBILITIES WITH CONTRACTORS

When contractors are involved in permit space entry work at our workplace, the _____ will inform the contractor of the following information and coordinate any entry operations:

a. List the location of the permit spaces at our facility. Notify the contractor that entry into these spaces is only allowed through a permit space program, alternative procedures or space reclassification.

b. Our rationale for listing the space as a permit space, such as any identified hazards, and our experiences with the particular space.

c. Precautions that we have implemented to protect employees working in or near the space.

_____ will debrief the contractor at the completion of the entry operation, or during if a need arises, and if any hazards were confronted or created during their work.

The following is a list of contractors our company uses in projects/tasks involving PRCS:

_____
_____
_____
_____
_____

8. CONTRACTOR'S RESPONSIBILITIES WITH HOST EMPLOYERS

When a contractor is hired to perform work in a PRCS, the _____ will:

a. Obtain from the contractor any information on the hazards (chemicals, equipment, tasks) the contractor's employees will introduce into the permit space.

b. Determine whether our employees will be working in or near a PRCS where they may be exposed to the contractor's hazards. Coordinate entry operations with a designated contractor representative.

c. Obtain from the contractor the PRCS entry program/procedures they will be utilizing.

d. Hold a debriefing conference with the contractor at the completion of the entry operation or during the entry operation (if needed) to exchange information on any hazards confronted or created.

9. TRAINING: *No Wexford County Employees will be entering the PRCSs.*

Training will be given to each employee who has access or potential access to a permit space. The amount and type of training needed will depend on the individual's job responsibilities. The overall intent of this training is to give employees the knowledge, and skills necessary for the safe performance of their assigned duties in relation to the entry of PRCSs.

a. **Awareness Training:** Awareness training for employees potentially exposed to permit spaces. This training provides knowledge regarding:

- the existence, location and danger posed by PRCS in the company,
- the design, content and purpose of any warning sign posted or other means of warning, and
- the prohibition of entry into PRCS unless expressly authorized by a permit or certification.

b. Training Required for All PRCS Entry Categories:

Entries into PRCS can be made through the use of a permit or through certification as an alternate entry or non-permit classification. Regardless of the method, employees are required to have training regarding hazards, safeguards and prohibited conditions requiring employee evacuation of the space.

Include in your program only those controls you intend to use. Although this program contains common, generic terms, your program shall reflect what your specific PRCS entries are and how you evaluate and control your hazards.

c. Training for entry into any PRCS shall include (as applicable):

- The hazards associated with any atmospheric contaminants including their acceptable entry levels and symptoms of overexposure.
- Awareness training to recognize other potential hazards in or around the space.
- Any conditions that may make it unsafe to remove the entrance cover.
- The need for prompt guarding of the entrance opening.
- Atmospheric testing equipment including: use, calibration, maintenance, testing protocol, pre- entry testing, and frequency of testing.
- Train employees on the hazards associated with the space (i.e., mechanical, chemical, atmospheric) and the methods needed to eliminate the hazards including: isolation techniques; lockout/tagout; disconnection and of pipes; double block and bleed; blanking and blinding; removal of engulfment hazards; elimination of hazardous atmosphere by draining, inerting, purging, cleaning, and venting.
- Procedures; the employee must follow if a prohibited condition is detected.
- When to exit the space.
- The evaluation process to be used for reentry if a hazardous atmosphere is detected or the entrant(s) vacate(s) the space and returns some time later.
- Train employees on the use of entry equipment, including ladders and intrinsically safe lighting.
- Personal protective equipment (e.g., gloves, hard hats, boots, etc.) and its use, limitations, and required maintenance.
- A review of the completed written certification form or permit with the employee prior to entering the space.

d. Additional Training for Using Alternate Entry Procedures: If the space qualifies for alternate procedures, training on the following topics is suggested:

- The procedures can only be used when a hazardous atmosphere is the only hazard of concern.
- Any process that may introduce a hazard (e.g., cleaning with chemical solvents) would prohibit the use of alternate procedures.
- Review the requirements of paragraph (c)(5) with the employee.

f. **Additional Training for Use when Reclassifying to Non-Permit Space Status:**

(If the permit space can be reclassified as a non-permit space, the following items should be discussed)

- Employees are entitled to see and review the documentation of the elimination of the hazards. If elimination of the hazards or verification of elimination requires employees to enter the space, a full PRCS entry is needed.
- The requirements of paragraph (c)(7) must be reviewed with the employee(s).
- Inform employees that any procedures such as cleaning with a chemical, or other prohibited condition would negate the reclassification and convert the space back to a permit space.

g. Specific Personnel Titles for Full Permit-Required Confined Space Entry Operations

Entry into any PRCS where a full PRCS program is mandated will require the employer to designate an entry team. Each team will consist of an:

- authorized entrant(s) -- can simultaneously be the entry supervisor
- attendant(s)
- entry supervisor(s) -- can simultaneously be the authorized entrant
- rescue personnel -- see Rescue Section 10

These team members will need the following training on those duties that are over and above training for all PRCS entrants:

Authorized Entrants

- Maintain a continuous means of communication with the attendant
- Alert the attendant in the event of an emergency.

Attendants

- Maintain an accurate account of the authorized entrants.
- Remain at their assigned station until relieved by another attendant or until the permit space entry is complete.
- Monitor conditions in and around the permit space.
- Summon rescue and applicable medical services in the event of an emergency.
- Perform non-entry rescue procedures.
- Perform appropriate measures to prevent unauthorized personnel from entering the permit space.
- Maintain communication with authorized entrants in the space.

Entry Supervisors

- Verify that the safeguards required by the permit have been implemented.
- Verify that rescue services are available and that means for summoning them are operable.
- Cancel the written permit and terminate the permit space entry when required.
- Remove personnel who are not authorized to enter the permit space during entry operations.
- Periodically, determine that the entry operation is being performed in a manner consistent with the requirements of the permit space entry procedures and that acceptable entry conditions are maintained.
- Procedures for annual review of canceled permits.
- Any other information necessary to ensure employee safety during a permit space entry operation.
- Documentation of the training.

***Rescue personnel*:**

See Division of Occupational Health handout OH-873 (attached) for rescue personnel training.

See the form provided below and section 5A. Safety & Health Training to document training.

10. RESCUE AND EMERGENCY SERVICES

The precautions and procedures outlined in our written PRCS program are designed to ensure that our employees are safe while working in permit spaces. Under no circumstances do we expect our employees to enter a permit space where hazards have not been eliminated or effectively controlled.

Additionally, we recognize that unexpected situations might arise that prevent entrants from self-rescue. In response, the following rescue and emergency action plan has been developed and will be strictly enforced:

The _____ has decided to utilize:

____ on-site rescue services which include:

a. ____ non-entry rescue procedures
b. ____ entry rescue procedures

____ off-site entry rescue services

Note to the Employer:

The _____ has made arrangements with (Name Off-site Rescue Service(s) _____ and/or _____ for off-site rescue and emergency services, and they have consented to provide this service. The company also has informed the rescue service of the types of spaces and potential hazards, and has provided the service with access to the spaces for practice.

Note: Below, we have described the procedures that will be used for summoning the rescue and emergency services. We have include the name, location, and telephone numbers of the rescue service(s) in this program and also on the entry permit. We also have trained employees on the specific procedures for summoning the rescue and emergency services.

Name of Rescue Service _____
Telephone _____
Location _____

Approximate Response Time _____

The specific procedures for summoning rescue and emergency services for our workplace is outlined as follows: _____
_____
_____
_____

11. PERMIT-REQUIRED CONFINED SPACE PROGRAM REVIEW

This subsection is not required if all permit spaces have been reclassified as a non-permit space, or if alternate procedures are used.

Within one year of any entry operation, the _____ will conduct a review of the program using the cancelled entry permits to identify any deficiencies in our program. A review will be conducted sooner if there is reason to believe that the program does not adequately protect our employees. Any corrective measures will be documented by a revision of the program. Employees will be trained on any changes. Additionally, employees who note any inadequacies with the program can contact the _____.

If no permit space entry operations are conducted during the year, no review is needed.

CONFINED SPACE IDENTIFICATION MATRIX

Confined Space Type & Location	Oxygen Deficiency YES or NO	Combustible YES or NO	Toxic Atmosphere What Toxins?	Engulfment/ Entrapment	Electrical Hazard	Classification: Non-permit / Permit
	(---------- Documented or Potential ----------)					

Confined Spaces are areas which:

1) Have adequate size and configuration for employee entry,
2) Have limited means of access or egress, and
3) Are not designated for continuous employee occupancy.

Classifications:

1) Permit-required (**PRCS**)
2) Alternate procedure (**AP**)
3) Non-permit (**NPCS**)

DOCUMENTATION OF TRAINING

COMPANY NAME: _____

Date: _____

Note to the Employer:

You may be entering spaces throughout your company in all three ways; as an alternate entry, reclassifying to non-permit or as full PRCS entries. There are common steps to be taken in the evaluation and control of hazards, equipment, skills and knowledge necessary for entering spaces. Recognizing the duplication involved and unnecessary repetition saves time and resources. Focus on a set of practices you want employees to commit themselves to as they evaluate entries and take steps to protect themselves. Document all employees training. This certification simply requires the employee's name, the signature(s) or initial(s) of the trainer(s), and date(s) of training.

The following is a list of employees who have been equipped and trained to serve as authorized entrants or as entrants using non-permit or alternate procedures at our facility:

Authorized Entrant(s)	*Trainer*	*Date of Training*

The following is a list of employees who have been equipped and trained to serve as attendants:

Attendant(s)	*Trainer*	*Date of Training*

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

The following is a list of employees who have been trained to serve as entry supervisors:

Entry Supervisor(s)	*Trainer*	*Date of Training*
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The following is a list of employees who have been trained to serve as Rescue Personnel:

Rescuer(s)	*Trainer*	*Date of Training*
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

ALTERNATE ENTRY PROCEDURE (C) (5)
ACTION AGENDA FOR MIOSHA
PERMIT REQUIRED CONFINED SPACE ENTRY

Once an employer has met requirements for paragraphs (c) (1-4) and (8), the standard allows the use of alternate entry procedures when all of the conditions below are met. The benefits for an employer include no requirement for an attendant, no entry supervisor, and no rescue provisions and reduced requirements for written documentation.

To qualify for "Alternate Entry" an employer must:

- Demonstrate and document that the only hazard posed is an actual or potential hazardous atmosphere. (i.e. historical data, MSDS)

- Demonstrate and document that continuous forced air ventilation alone is sufficient to maintain the space safe for entry.

- Not introduce any hazards (i.e. uses of flammables, toxic, hot work) into the space.

Alternate Entry Procedure:

- Evaluate and eliminate any hazard to ensure that the cover to a confined space can be removed safely.

- Guard openings to spaces to prevent persons or objects from falling into them.

- Prior to entry, test the atmosphere with a calibrated, direct-read instrument for oxygen, flammability and toxicity. Record the results.

- Ensure no hazardous atmosphere will exist for the duration of the entry. Use continuous air ventilation through the breathing zone from a dean source.

- Assure safe atmospheric conditions by periodic testing and recording.

- If a hazard is detected the entry shall be terminated, and the space re-evaluated.

- Train entrants on the hazards, equipment and safe work practices necessary to make the entry and all work performed during the entry safe.

- Certify in writing that all the above procedures have been implemented, identify the space, the date of entry, sign the certification and make it available to all affected employees.

RESCUE SERVICE DECISION LOGIC FOR MIOSHA PERMIT REQUIRED CONFINED SPACES

Entries where no rescue service is require:

- Make the spaces to be entered safe for entry by use of the "Alternate Entry Procedure" (c) (5). Refer to "Alternate Entry Action Agenda" handout.

- Use non-entry rescue [retrieval system, see paragraph (k) (3)]. This method reduces requirements by keeping rescuers out of the space.

Reasons to establish your own rescue service:

- You make frequent entries (i.e. bi-weekly).

- You are located a significant distance from, and cannot assure the presence of, an outside service.

- Your spaces have special hazards (i.e. chemical or physical).

Requirements for an employer electing to use an off-site rescue, service:

- Notify the service of the hazards, location, configuration and special circumstances involved with the space(s).

- Provide the service with access to the space. Or, provide enough information on the space that the service could arrange training and practice rescues in similar spaces.

- Verify that the rescue service is available, equipped and trained to perform the duties your rescues entail and that their response time will allow for a successful rescue.

Note: This document is intended as a compliance guide for MIOSHA Occupational Health Rule 325.63001 - .63049, which adopts the federal 0SHA standard codified as 29 CFR 1910.146, Permit Required Confined Spaces. This guide does not substitute for a full reading of the standard.

RESCUE SERVICE REQUIREMENTS
FOR MIOSHA
PERMIT-REQUIRED CONFINED SPACES

The following rules pertain to rescue services performing permit-required confined space rescues either as an in-house team or as an off-site employer (i.e. fire department) with recognized agreement to perform rescues.

1. Provide each member with personal protective and other equipment to perform rescues.

2. Train members to perform assigned rescue duties.

3. Train members as “Authorized Entrants" (see below).

4. Practice permit required confined space (PRCS) rescues, in actual or representative spaces, at least once a year.

5. Train all members in basic first aid and CPR and keep 1 member current.

6. Have a mechanical device available to retrieve personnel from vertical permit spaces more than 5 feet deep.

7. Have written rescue plans and procedures.

AUTHORIZED ENTRANT TRAINING

1. Know the hazards of entry including effects of exposure.

2. Know the proper use of all equipment required to ensure safe entry and task performance.

3. Know how and what to communicate to the attendant regarding entrant health and safety status, prohibited conditions and evacuation alerts.

4. Know when and how to exit the space.

Employers Performing rescues in confined spaces or hazardous environments not covered by paragraph (k) of the standard may be required to comply with other MIOSHA standards including: General Industry Safety Standards Part 74, Fire Fighting; Part 1, General Rules; and 0ccupational Health Rules 33O2, Use of Respirators in Dangerous Atmospheres; Rule 3502, General Respiratory Protection; The Michigan Right-to-Know Law, and/or Rules 325.52130-.52135, Hazardous Waste Operations and Emergency Response. For further information, contact the Michigan Department of Labor (MIOSHA) at (517) 322-1809 or The Michigan Department of Pubic Health (MIOSHA) at (517) 335-8250.

CONFINED SPACE ENTRY PERMIT

SECTION A

1. Description / location of the confined space _____
_____

2. Purpose of Entry _____

3. Date and Time Issued _____ _____ am/pm
(date) (time)

(NOTE. This permit is good for only 12 hours from the time noted.)

4. List Authorized Entrant(s) _____
_____

5. Confined Space Isolated:

   a. All pumps or lines which may convey harmful or incapacitating substances into the space disconnected or blocked.

   b. All mechanical devices within the space that could cause injury locked out.

   c. Space adequately vented prior to entry.

   d. Hatch / porthole secured open.

6. Atmospheric Testing:

	Readings	Initials of tester
a. Oxygen level (19.5 - 23.5%)	_____	_____
b. Combustible (0 - 10% LFL)	_____	_____
c. Toxic Gases or vapors	_____	_____

(NOTE: Continuous monitoring will be used if these values may be subject to change.)

SECTION B

7. List Attendant(s) _____

8. Entrant utilizing full body harness or wristlets. _____ Yes _____ No

9 Retrieval system in place. _____ Yes _____ No

10. List communication procedures to be used between attendant and entrant.

_____
_____
_____

11. List any special tools, personal protective equipment to be used.

_____
_____
_____

12. List any special requirements necessary for entry into the space. (e.g., Hot Work Permit)

_____
_____
_____

14. Call 911 in the event of an emergency.

(Supervisors Signature) _____

Date: _____

CONFINED SPACE ENTRY TRAINING LOG

The following employees have received Confined Space Entry Training:

The training was conducted by ________________________________

Employee’s Name (print)	*Employee’s Name (signature)*	*Date Trained*

CHAIN SAW SAFETY

Chain Saw Operators

In this manual, we group chain saw operators as follows:

Professional Operator

Any person who operates a chain saw as a main tool for his living, such as a logger.
(Heavy use)

Occasional Operator, Semi-Professional

The chain saw is not the main tool but is used as a tool necessary for the work to be done. Example are tree trimmers and farmers.
(Medium use)

Casual Operator

The chain saw is used for the personal use of the operator to cut firewood, etc.
(Light use)

For the Professional Operator

Although basic, all instructions contained in this manual also apply to the professional logger. However, as your job requires you to work in all kinds of conditions and circumstances, we strongly urge you to obtain additional training and participate in refresher courses at least every 2 to 3 years. This will make you both a safer and more productive logger.

For the Casual or Occasional Operator

This manual is primarily intended for the casual or occasional operator. These instructions are basic. It is not possible to cover every situation you may encounter while using your chain saw. Be careful at all times and avoid situations that may be too complicated for your experience. If you are unsure of a cutting situation, call a logging expert before continuing. We encourage you to seek instruction on the use of chain saw. Your local dealer, forestry school or library can tell you what instructional material and training course are available. The better prepared you are, the better and safer operation you will get from your chain saw.

Common Sense

Your chain saw can be a very dangerous tool if improperly or carelessly used or if improperly equipped or maintained. The following instructions are basic and cannot

cover all situations you might encounter while using your chain saw. Use common sense and caution at all times. Avoid situations that may be too dangerous or complicated for you. If you still feel you do not understand the dangers of using a chain saw after having read these instructions, you should not use the saw. Seek personal instruction from people qualified to instruct you on the use of chain saws. Your dealer can tell about training provided by local forestry schools. Should you have more questions about the use of your saw, don't hesitate to contact your dealer or us. We will be more than happy to provide you with any advice that will help you to use your saw in a better and safer way. New designs and techniques are introduced continuously designs that will increase your safety and productivity. Make a point of stopping by your servicing dealer to see how the latest designs can benefit you. It will be worth it.
Safe Cutting!

Manuals

Your chain saw comes with two instruction manuals. This Safety Manual contains general information in how to operate your chain saw in a safe way. The Operator's Manual gives specific information on the technical design and maintenance regarding your particular model. Read both manuals very carefully before operating a chain saw.

We continuously strive to improve all of our products. As a result, engineering changes and improvements are made from time to time. Written notices relating to such changes are sent to our dealers. Make a point of asking your chain saw dealer to show you the latest design.

Clothing

Proper clothing and equipment are intended to protect you from potential hazards such as lacerations, thrown objects, and hearing loss.

IMPORTANT: *The personal safety equipment cannot prevent an accident but use of good personal safety equipment may minimize an injury in the event of an accident Ask your dealer to show you the latest safe forestry equipment available to help protect you. For example, a complete helmet with visor and earmuffs and safety pants or chaps.*

Clothing should keep you warm and comfortable, and, therefore, safer in adverse weather. Never wear loose fitting clothing, jewelry, etc., which could become entangled in the saw and cause serious injury.

SAFETY EQUIPMENT

IMPORTANT: *We strongly recommend the use of this safety equipment for all users at any time you use your chain saw. Because safety records prove a decrease in injuries when equipment is used, most professional logging operations now demand that their operators wear these items. Take advantage of their experience. Your dealer will gladly assist in finding the right safety equipment for you.*

Complete Protective Helmet. This consists of a lightweight helmet, built-in earmuffs and a face shield. Its main advantage is that everything you need is one piece rather than three. As the earmuff are attached to the helmet, they also help in keeping your helmet more secure on your head. The helmet or hard hat is intended to reduce risk of injuries from objects that may fall from a tree. Earmuffs reduce the risk of hearing injuries that can be the result of operating any noisy equipment over a prolonged period of time. The face shield protects the face from strikes from small branches and eyes from saw chips and dust.

Heavy Duty Gloves. Special gloves are available where the left glove is reinforced to help minimize injuries should your left hand inadvertently touch a rotating chain.

Protective Pants or Chaps. The protective material used in modern protective pants or chaps consists of several layers or synthetic fabric. Should you inadvertently hit your leg with a running saw, chain, protective pants can reduce the chance of injury.

Boots. Special work boots with reinforced front and upper side are available for loggers. Should you inadvertently hit t boot with the saw these protective boots may protect you from injury.

First Aid Kit. A first aid kit approved by the Red Cross or an organization of similar stature should always be carried in case of injury in the field. A kit should contain large dressings for lacerations, splints and slings for fractures, antiseptic and other optional items for your safety and convenience, such insect repellent and a snake bite kit.

Required Tools. The following items are needed for routine, everyday, safe operation and maintenance of a chain saw.

T-Wrench	Needed to adjust chain tension.
Small Screwdriver	Used to adjust carburetor.
Files	One round file with file holder to sharpen cutting edge of chain and one flat file and depth gauge tool for filing the depth gauge.
Wedge	At least one non-metal wedge to help property remove a stuck saw.
Axe	Useful for trimming and clearing work that is hazardous, or not recommended for a chain saw.
Felling Lever and Hook	The felling lever is used to assist in felling a tree. The hook can be used to move a felled tree.

Fire Extinguisher &
Shovel Used to extinguish fires.

IMPORTANT. *Use caution in dry conditions. A chain saw can generate sparks hot enough to ignite dry grass or chips. The sparks can come from the muffler, the bar and chain or other sources. Check with local agencies to ensure your chain saw meets all local requirements. Avoid using your chain saw in extremely dry conditions or when fire warnings are posted. Always have fire extinguishing tools available should you need them. Help prevent forest fires.*

CHAIN SAW SAFETY FEATURES

General

A chain saw has two parts, the engine or power head and the cutting equipment (bar and chain). Adjustment and maintenance of the power head and it major components can be found in the technical manual. The chain saw safety features are shown and describe below. Check them and their function before each use.

1. Front Hand Guard

Helps prevent a slipping left hand from touching the saw chain and triggers or resets the chain-brake.

2. Chain Brake

The chain brake is designed to stop the saw chain if activated while the saw chain is running, or can act as a parking brake while the chain saw is idling to help prevent the saw chain from moving.

3. Throttle Trigger Lockout

Helps to prevent the accidental acceleration of the throttle. The throttle is locked in the idling position when the lockout is not pushed in by operator's right hand.

4. Rear Hand Guard

The lower part of the rear handle is designed to reduce injury by protecting operator's hand in the event of chain breakage.

5. Chain catcher

Located under the chain as far forward as is practically possible, and designed to catch a broken or jumping chain.

6. Stop Switch

Used to stop the motor.

7. Muffler

Designed to decrease noise level and direct exhaust gases away from the operator. During operation the muffler is hot. Do not touch.

8. Spark Arrestor

The exhaust gases are hot, and can contain sparks which may cause fire if directed against dry and combustible material. To minimize the risk for forest tree your chain saw is equipped with a spark arresting screen that will prevent sparks (glowing carbon particles) of a certain size to leave the muffler. Over a period of time the particles will clog up the screen. If the screen is not cleaned the particles will restrict the exhaust and your chain saw will loose power. Follow the instructions in the Operators Manual when removing and cleaning the screen. We recommend that you always have the spark arrestor screen installed. Help prevent forest fires. In certain states the spark arrestor is mandatory. Never use your chain saw with out a spark arrestor screen if required in your area.

CAUTION: Never use a saw without muffler or with a damaged muffler. A damaged muffler may substantially increase the noise level and the fire hazard. Keep fire-fighting equipment handy. If spark arrester screen is required in your area never use the saw without or with a broken spark arrester screen.

9. Vibration Isolator

Located between the engine unit and the handle unit. Reduces operator's exposure to vibration.

IMPORTANT: The isolators should be checked frequently for cracks and deformation. Replace when damaged.

10. Heated Handles

Saw models with heated handles are available and will keep your hands warm during cold days.

11. Cutting Equipment

The cutting equipment consists of a guide bar and saw chain. There are several different manufacturers of guide bars and saw chains. Each manufacturer produces several different types, and each type is available in different lengths.

The warning labels on the saw refer to ANSI 13175.1 - 1991 Kickback Requirements. Saws complying with these requirements have a low kickback tendency as long as the recommended saw chain and bar combination is used. The bar and chain combination is vital to your chain saw's kickback propensity. Your Operator's Manual lists bar and chain recommendations for your saw which comply with the requirements. We strongly recommend that you only use approved combinations unless you have extraordinary cutting needs, experience, and specialized training in dealing with kickback.

12. Straight Guide Bars

Guide bars come in many different types and shapes. The design of the nose radius is especially important. The smaller the radius, the smaller the kickback zone. The smaller the kickback zone. the less likely it is that a kickback will occur. A smaller radius also decreases the kickback force. The guide bar nose radius is determined by either the number of teeth in the sprocket nose (for example: 1OT, the lower the number, the smaller the radius) or corresponding nose radius of a solid nose bar. Your Operator's Manual recommends bars with small nose radius. The Operator's Manual lists the maximum nose radius which should be used. You may use a guide bar with smaller nose radius than listed.

IMPORTANT: We strongly recommend using only the type of guide bar specified for your saw by the Operator's Manual.

13. Bow Guide Bars

Bow guide bars are among the many accessories sold by retailers for use with chain saws. Bow guide bars are mainly sold and used in USA. The illustration shows the pear-like shape of a bow guide bar. A bow guide has a open center and a large nose radius. Compare the kickback danger zone of the bow guide bar with the kickback danger zone of a straight guide bar. The *kickback danger* zone on the bow guide bar is much larger than on a straight guide bar.

Improperly used, bow guide bars can produce a more severe kickback than a straight guide bar. Do not use a chain saw with a bow guide unless you have extraordinary cutting needs, experience, and specialize training in dealing with kickback. The special "Operator's Manual - Bow Guides" is available for bow guide bar users.
If your special needs require the use of a bow guide bar, you must follow all instructions in the Manual. Failure to follow instruction could result in serious or fatal injury.
Guide bars with significantly reduced kickback potential are available.

SAW CHAINS

Saw Chain's Design Saw chains are available in many different designs. The low kickback tendencies that are built into your saw chain also somewhat reduce its cutting potential. However, modern saw chain designs have both good cutting capacities and

low kickback tendencies, and the benefit of better kickback protection is worth a small reduction in cutting performance. Below are four different types of saw chains and the features that reduce their kickback tendencies.

Saw chain without any kickback protection is not recommended.

Saw chain with improved kickback protection.

Used by professional loggers. Do not use this type of saw chain unless you have specialized training for dealing with kickback. Saw chains with more reduced kickback potential is available.

Low kickback saw chain.

Recommended for all kinds of cutting for the occasional operator.

Low kickback saw chain.

Offers the best kickback protection. Mostly used on chain saws intended for casual operators due to its ability to reduce kickback.

CAUTION: No saw chain design eliminates the danger of kickback.

IMPORTANT: The designs shown above are from one manufacturer. Other manufacturers have accomplished similar results, but through other design features. The illustrations are intended only to show the appearances of some different designs. Always use the saw chain that offers the best kickback protection for your use. Follow the recommendation in your Operator's Manual.

POTENTIAL DANGERS

Severe Laceration

Touching Chain.

Taking the following steps will help to lessen the risk o touching the chain:

- Avoid cutting when fired; you have a greater chance of losing control of the saw.
- Set up work area to reduce chance of slipping or tripping.
- In demanding work situations (during felling, for example) plan your route of escape before you begin cutting.
- Shut off the saw when possible.

- Carry your chain saw safely with the chain to the rear.
- Hold the saw firmly with both hands when the engine is running.
- Wear protective equipment.
- Do not allow other people or animals in your work area.
- Engage the chain brake when mowing between work areas.

Kickback

What is Kickback?

Kickback is the sudden, rearward motion of the saw that can occur if the kickback zone of the bar touches an object. Most kickbacks are small. They can cause the bar tip to jump only a few inches and pose little danger. However, a kickback can also be very powerful. If you are not paying attention and/or have a poor grip, the saw can be thrown all the way back at you. If the chain is still running, and it hits you, it will severely cut you.

Rotational Kickback: Kickback can occur when the upper tip of the guide bar, the kickback zone, touches something, such as a trunk, branch or other object. When the nose is used, only one or two cutters engage the wood at a given time. As a result, the chain might grab or jam. When the chain gets blocked and stops, the reaction will cause the guide bar to kick back. It can be a lightening fast, reverse action, kicking the guide bar back at you.

Pinch Kickback: Pinching the saw chain along the top of the guide bar may push the saw back at you. If the bar is pushed back far enough so that the kickback zone hits an object, a rotational kickback may develop.

Direction of Kickback: A kickback always travels in the plane of the bar. Depending on how you hold the chain saw a kickback may come up and back at you or move in any angle you happened to hold the chain saw in. For example, if you experience a kickback during felling, the chain saw will move in the horizontal plane and can swing around and hit your leg.

IMPORTANT: Kickback can only occur if the kickback danger zone of the bar touches an object. A kickback can be lightning fast. Although most kickbacks are small, sometimes a kickback can be very violent.

Avoiding Kickback

Following the rules listed below will help to avoid kickback:

- Use proper working techniques.
- Do not use the kickback danger zone of the bar.
- Use proper grip.
- Avoid unsafe and off-balance working positions.
- Cut at high speed.
- Keep work piece secure.
- Make sure working area is free of obstructions.
- Be alert.

Proper Working Technique

The only sure way to avoid kickback and other danger associated with chain saws is through proper working technique.

Avoid These Situations

Do not use the kickback danger zone when cutting. As kickback can only occur when the kickback danger zone on the tip of the bar touches an object, kickback can be completely avoided by not cutting with that part. Make sure that the area in which you are working is free from obstructions. Do not let the nose the guide bar inadvertently contact a log, branch, or other obstruction that could be hit while you are operating the saw.

Use Proper Grip

When the engine is running, keep a good, firm grip on the saw, always with both hands. The right hand should be on the rear handle, and the left hand on the front handle. All people, whether right or left-handed, should use this grip. Use a firm grip with thumbs and fingers encircling the chain saw handles. **Never use your saw while holding it with only one hand.** A firm grip will help you reduce kickback and maintain control of the saw.

Avoid Unsafe Positions

Do not use your saw above shoulder height or use the saw in a nose-high position. The saw is harder to control in these positions, and with the bar closer to your face or upper body, even a small kickback may have enough speed and force to reach you. Also, your chain brake may not have enough time to slow down the saw chain if the kickback starts from an unsafe position close to your body, even if the brake is activated.

Do not overreach or work from an unsafe position, such as ladders, in a tree, or a pile of wood. In such situations your footing is insecure, and you can easily cut yourself, either through a simple distraction or through a kickback because your control of the saw is insufficient.

Use Proper Speed

Cut at high engine speed. At higher speeds, the saw chain is less likely to become stuck.

Have Control Over Work Piece

If the pieces you cut are small and light, the saw chain can catch and throw them at you. Although not necessarily dangerous in itself, you can be startled and lose control of the saw. Never cut logs or branches that are stacked without first pulling them apart. Cut only one log or piece at a time. Remove the pieces you have cut to keep your work area clear.

Avoiding Kickback - Your Equipment

IMPORTANT: This equipment is for extra protection. It cannot fully prevent kickback, minimize it. Never rely entirely on these safety devices for your protection. Rely on your safe working technique.

As explained previously, kickback can be avoided by using safe cutting techniques, where at all times you avoid cutting with the tip of the bar. However, certain items on your chain saw are also designed to minimize the kickback itself or possible injuries should you encounter a kickback.

Small Nose Radius Bar

The smaller the nose radius, the smaller the kickback zone, and the less likely it is that a severe kickback will occur. Your Technical Manual specifies small nose radius bars available for your saw.

To minimize the risks of kickback through your bar and chain combination, you should always:

- Use small nose radius bar and low kickback chain.
- Check and adjust saw chain tension.
- Maintain the correct depth gauge and sharpness of the chain.

- Replace worn-out or damaged bar and chain with approved replacement combinations.

Low Kickback Saw Chains

Modern saw chains are designed to reduce the force of kickback. Your Operators Manual lists low kickback saw chains that have been tested and selected for your saw. The saw chain can give its intended protection only if it is filed and maintained according to the manufacture's instructions. As the cutting tooth on a saw is filed away when it is sharpened, it slowly becomes more aggressive. At the end of its life, it is more kickback prone than when it is new. Your saw chain has been designed to reduce the possibility of kickback. If the chain is not filed according to the manufacturer's directions, you may remove some of the saw chain's kickback features. Such a chain is more dangerous to use. Always follow the saw chain manufacturer's filing instructions.

When your saw chain has to be replaced, you should replace it with a low kickback chain. Follow our recommendation in the Operators Manual, or your dealer's advice. Be sure that you get a chain that will give you the same or better protection as the original equipment.

Nose Guard

A metal nose guard is attached to the bar tip cover the kickback danger zone while allowing the chain to rotate under it. When using a nose guard, the bar has to be more than two-inches longer than the thickest log you intend to cut, making certain felling and bucking techniques impossible. Due to this drawback and others, we do not manufacturer or market nose guards. If you feel that nose guard will offer the best protection for you, your dealer will be able to assist you in installing one.

Chain Brake

One safety feature of the chain saw is the chain brake will not prevent a kickback, but is designed to reduce the severity of certain kickbacks. When the chain brake is triggered, a mechanism which locks the clutch drum is activated and stops the saw chain almost instantly. The mechanism can be reset by moving the hand guard back against the front handle.

The chain brake is triggered when the hand guard is moved forward. This may occur when your left hand/wrist touches the hand guard during a kickback. The chain brake can also be used as a safety parking brake when the engine is running and at idle speed.

Will My Hand Always Activate the Saw Chain Brake During a Kickback?

No. It takes a certain force to move the handle forward, your hand only lightly touches the front guard or slips over it, the force may not be enough to trigger the chain brake. It is important that you maintain a firm grip of the chain saw handles while working. If you

do and experience a kickback, your hand might not leave the front handle to activate the chain brake or the chain brake will be activated by your wrist only after the saw has swung around a considerable distance. In such instances, it might not be enough time for the chain brake to stop the chain before it touches you.

Does a Chain Brake Work in All Situations and Positions?

No. First, the chain brake must be properly maintained to work. Second, there are certain positions in which the chain brake may not activate. Please refer to your Technical Manual for details. Third, the chain brake mush be activated to stop the chain. If it is not activated, the chain will continue to run. Fourth, the chain brake might not have enough time to stop the saw chain to a standstill before it reaches your body. If the saw chain is too close to you because you are using an improper working procedure.

CAUTION!

A Chain brake may not always activate during a kickback. A chain brake can give you its intended protection only if it is properly maintained. A neglected and abused chain brake might not work when you need it most. Test the chain brake of the bar periodically to be sure it will work for you if you have a kickback. We recommend that you test the chain brake after each work break. If the chain brake does not activate, clean it and check that the mechanism is not damaged. If the chain brake still does not work, take you chain saw to your servicing dealer for repair. Please refer to your Operator's Manual for proper testing procedure of the chain brake on your saw.

IMPORTANT! Kickback and its possible consequences can be avoided.

- *Use proper working techniques.*
- *Do not use the kickback danger zone*
- *Avoid unsafe positions.*
- *Use proper grip.*
- *Cut at high speed.*
- *Have control over your work piece.*
- *Be alert.*

Carbon Monoxide Poisoning

Carbon monoxide is a colorless, odorless, tasteless byproduct of an internal combustion engine, and is always present in exhaust fumes.

The onset of carbon monoxide poisoning is distinguished by a slight dizziness that may or may not be recognized by the victim. A person may collapse and lapse into unconsciousness with no warning if the concentration of carbon monoxide is sufficiently high. Symptoms of mild intoxication are vague and nonspecific, including mild headache, general weakness and fatigue.

Since carbon monoxide is colorless and odorless, its presence cannot always be detected. Any time exhaust odors are noticed, you should always assume carbon monoxide is present.

Never use your gasoline-powered chain saw indoors, in a trench, or other confined area with poor ventilation where the exhaust fumes are not ventilated away.

Hearing Loss

CAUTION! A chain saw produces a noise level high enough to permanently damage your hearing after long or continuous exposure. Always wear hearing protection when operating a chain saw.

Long or continuous exposure to high noise levels may cause permanent hearing impairment. A normally muffled chain saw engine produces enough noise to damage your hearing. You must always wear hearing protectors when using your chain saw.

All people who operate chain saws for any extended length of time should take the following precautions:

- Use a saw with low vibration characteristics.
- Keep your body and hands warm. Some saw models have heated handles which will keep you hands comfortable even in cold weather.
- Wear gloves.
- Refrain from smoking.
- Limit your vibration exposure per day or season. Take frequent work breaks.
- Keep the saw chain sharp and the saw well maintained. A dull chain will increase the cutting time. If you increase the pressure of your hands on the handle to press a dull chain through the wood, you will increase the vibration transmitted to your hands. A saw with loose components will also increase vibration.
- Keep the anti-vibration elements in good condition and replace them when necessary.

Vibration Injury

Prolonged use of vibrating hand tools, such as chain saws, could cause blood vessel or nerve damage in the fingers, hands, and wrists of some people prone to circulation disorders or abnormal swelling. Among the conditions that may be associated with blood vessel and nerve damage are Raynaud's Syndrome (white finger disease) and carpal tunnel syndrome.

If symptoms occur, such as numbness, loss of feeling, tingling, pain, loss of strength, change in skin color texture, or any other abnormal sensation or feeling in the fingers, hands, or wrists, discontinue use of the chain saw and seek medical attention. Before using this or any other vibrating hand tool, you may wish to consult with your physician to determine the possible effects of vibration on you.

Long exposure to vibration also adds to operator fatigue that can, in turn, adversely affect an operator's ability to safely direct and control the saw. If you feel fatigued or weak, discontinue use of the saw immediately.

To minimize the risk of vibration-related conditions, your chain saw has been engineered to reduce the operator's exposure to harmful vibration levels. The rubber isolators or vibration damper blocks between the power head and handle unit are part of engineering efforts to reduce vibration. These rubber isolators should be checked frequently and replaced periodically as use of the saw, exposure to the elements, and exposure to gasoline and oils minimize their effectiveness over time.

Crushing, Fracture, or Puncture

1. Falling Timber

Failing timber can cause serious or fatal injury. Before cutting, look for:

- Broken or dead branches.
- Surrounding trees. When your tree falls, will it cause other trees or branches to be broken off.

2. Thrown Objects

When the engine is running at cutting speed, the saw chain rotates at about 40-50 mph (20 m/s). It is capable of throwing objects, such as sawdust, small pieces of wood, etc., with great force, and can cause serious injury, especially to the eyes.

CAUTION! Always wear safety goggles or face shield to minimize the risk of injury from thrown objects.

3. Burns, Fire

Taking the following precautions, will lessen the chance of fire:

Check your saw for fuel leakage periodically: fuel tank, cap, hose, etc. Repair as soon as any parts seem to be in poor condition or as soon as a leakage is noticed or take your saw to a dealer.

- Fill the chain saw fuel tank in well-ventilated areas on a bare surface at least 10 feet (3-m) away from the cutting area.
- Be sure the muffler is undamaged and securely fastened.
- Keep the spark plug cover and ignition wire in good condition. Replace if worn or damaged.
- Do not smoke or allow any source of heat near gasoline or fuel.
- Allow a hot saw to cool before refueling.
- When refueling, open fuel cap slowly to release any pressure.
- If fuel is spilled on the engine, wipe it off or let it evaporate before starting the saw.
- Clear-flammable material away before cutting and do not leave a hot saw on dry litter or combustible material.
- Do not use a saw that is backfiring or otherwise not running properly. Have it repaired.
- Keep a fire extinguisher and shovel handy.
- Do not use a damaged muffler or a muffler without a spark arrester screen if required in your area.

Touching a hot muffler causes burns. A hot muffler exhaust gases can start a fire in combustible material. Spills or improper handling of fuel or gasoline can cause a fire or explosion.

Some states in the USA require testing and approve muffler design and exhaust gas temperatures. Do not modify your muffler as it may be unlawful to operate modified saw and you might start a forest fire. Help prevent wildfires.

Fuel Spillage

Fuel spillage may occur because of fuel tank over-fill. If fuel spillage has occurred, do not attempt to start your chain saw. The excessive fuel may catch fire. The fuel may be ignited by sparks from many sources such a muffler, defective wiring, the bar and chain et cetera. Tilt the saw over in both directions to allow spilled fuel to run off. Remove the cylinder cover. Remove any build-up of sawdust. If such build-up has been soaked in fuel will take much longer for the fuel to evaporate. Let saw sit for at least 15 minutes to allow the fuel to evaporate, longer if the temperature is below 5O°F (10°C). Move saw at least 10 feet (3 m) away from the spot where refueled the saw to avoid that any remaining fuel on ground catches fire.

BEFORE STARTING/AFTER TARTING

Safety Check - Before Each Use

1. Adjust Saw Chain Tension

> *CAUTION! Always shut off the engine before adjusting the chain tension. Never do any maintenance on the saw chain with the engine running. Wear gloves to avoid getting cut.*

A loose saw chain can jump off the guide bar and cause serious injury or death. A loose chain is also the main reason for excessive wear and damage to the bar and chain. Bar and chain installation is explained in the Maintenance Section of your Operator's Manual.

A properly adjusted chain is tight, but you should always be able to turn the chain freely with a gloved hand. Allow the bar to cool before adjustment. Check after tensioning by pulling the chain in the normal direction of rotation.

2. Lubricate Saw Chain

Fill chain oil tank with oil each time you refuel. Operating saw chain while oil tank is empty will cause damage to guide bar and saw chain. Use proper oil that is designed for the pressure of the cutter. Check your Operator's Manual for more information.

3. Keep Saw Chain Sharp

Always keep the saw chain sharp. A damaged, dull or incorrectly filed chain increases vibration and pressure on your hands and takes longer to saw through the wood. Follow saw chain manufacturer's recommendation when sharpening saw chain, or have your saw chain sharpened by your chain saw dealer.

4. Maintain Saw Chain

Keep chain properly sharpened, lubricated and correct tensioned. Chain breakage is almost always the result poor maintenance. Inspect rivets and links on saw chain for cracks and other defects before using. Do not use a damaged saw chain. Always use a filing gauge to achieve correct setting when filing depth gauges. Depth gauges set too low increase strain and the risk of chain breakage. A depth gauge that is too low increases potential for kickback and eliminates the design protection built into the product. Replace worn saw chains. Refer to your Operator's Manual and saw chain manufacturer's manual for proper maintenance and for information regarding when the saw chain should be replaced.

Before Each Use

1. Be sure chain brake is operating properly and undamaged.

   Note: Your Operator's Manual gives instructions on how to properly test the chain brake.

2. Check right-hand guard for damage.

3. Be sure chain catcher is in place and undamaged.

4. Be sure throttle lockout is operating properly and undamaged.

5. Be sure ignition switch is operating properly and undamaged.

6. Be sure anti-vibration components are in place and undamaged.

7. Be sure muffler is in place and undamaged.

8. Be sure all handles are clean and free from oil.

9. Check entire saw for loose fasteners and damaged missing components.

Carrying the Saw

1. Always turn off the engine before walking with the saw.

2. Do not leave the saw unattended while the engine is running.

3. Install guide bar scabbard on guide bar before carrying saw.

4. Carry the saw with the bar pointing to the rear and with the muffler away from you.

5. Engage the chain brake when mowing between areas.

STARTING & AFTER STARTING THE SAW

Starting the Saw

IMPORTANT! See starting section of the Technical Manual for details of how to set the choke, throttle latch, etc.

1. Place the saw on firm, level ground, and be sure the chain is clear of all obstructions before starting the engine.

2. Slide stop switch to "ON" position.

3. Place you r right foot in the rear handle. Grip the front handle firmly with your left hand.

4. Pull out starter cord slowly until the starter mechanism is engaged.

5. Apply a short, sharp pull to the starter rope, repeat until engine starts.

IMPORTANT! Hold the starter handle as the rope retracts. If you allow the starter rope to pull in by itself the fast action may damage the starter.

6. Squeeze throttle momentarily to release the throttle latch. Release throttle and let saw idle.

WARNING! A - Do not drop start. This method is very dangerous because you may lose control of the saw.

B - Do not start your saw without the bar, chain and clutch cover mounted. If you do, the clutch can come loose and cause severe personal injury.

Holding the Saw

With both hands, keep a good firm grip on the saw. The right hand should be on the rear handle, and the left hand on the front handle. Use a firm grip with thumbs and fingers encircling the chain saw handles. A firm grip will help you avoid kickback and maintain control of the saw. It You Are Left Handed Your chain saw is designed for a grip with your right hand on the rear handle and left hard on the front handle. ALL PEOPLE, WHETHER RIGHT OR LEFT HANDED, SHOULD USE THIS GRIP. Using the opposite grip, right hand - front handle, left hand - rear handle, gives you less control of the saw. It also brings the bar and chain closer to your body during normal operation. It is also possible you will not be able to activate the chain brake if your right hand is holding the front handle.

Never Hold a Chain Saw with Only One Hand While Working. Holding the saw with one hand while working is dangerous. The saw cannot be properly controlled. As you have less control of the saw, it has a tendency to bounce and skate when you start cutting. Under those circumstances, the saw may cut you. Because of your lack of control, you are also more likely to get a kickback. In the event of a kickback, a manual chain brake cannot be activated.

After Starting the Saw

1. Be sure the throttle trigger moves freely. When you release the throttle trigger, the engine speed must drop and return to idle by itself. The saw chain must not move when the engine is idling. If the saw chain continues to move at idle speed, the carburetor must be adjusted (see carburetor section of accompanying Operator's Manual or the saw returned to the dealer for proper adjustment. (Note: it the saw has a broken clutch spring, carburetor adjustment will not stop the chain from moving).

2. Test the chain brake. Refer to your Operator's Manual for the proper testing procedure of the chain brake.

3. Be sure the stop switch stops the engine.

4. After using the saw for 10-15 minutes, turn off the chain saw and check the chain tension.

Stopping The Saw

Using right thumb, slide the stop switch to the "STOP" position.

BASIC WORKING TECHNIQUES

IMPORTANT!

This information does not cover all specific situations. They may depend on differences in terrain, vegetation, type of wood, form and size of trees, etc. Consult your servicing dealer, forestry agent or local forestry schools for advice on specific woodcutting problems in your area. This will make you more efficient and your work safer.

General Rules

1. Avoid cutting in adverse weather conditions, such as dense fog, heavy rain, bitter cold, high winds, etc.

   Adverse weather is often tiring to work in and create potentially dangerous conditions such as slippery ground. High winds may force the tree to fall in an unexpected direction causing proper damage or personal injury.

2. Avoid stumbling on obstacles, such as stumps, rocks, branches and fallen trees.

4. Watch out for holes and ditches.

5. Be extremely cautious when working on slopes or uneven ground.

6. Turn saw off before moving from one place to another.

7. If you are not completely sure a cutting situation is safe, or you require assistance, get help before continuing.

Reactive Forces

When you are cutting, the chain in the kerf forces your saw in a direction opposite to the chain movement. This is called a reactive force. One such reactive force previously covered is kickback. With any chain saw, the energy used to cut wood can be reversed and work against the operator. If a rotating chain stops suddenly because the chain is pinched or if the chain suddenly hits a solid object, reactive forces occur instantly and may make you lose control of the saw.

1. Be especially alert during limb cutting operations when is easier to pinch the chain or to touch a limb by mistake.

2. Keep your feet firmly planted, in a wide, balanced stance.

3. Keep the saw body close to your body to improve control and to reduce strain.

4. When cutting with the bottom part of the chain, the reactive force will pull the saw away from you toward the wood you are cutting. The saw will control the feeding speed and sawdust will be directed toward you.

5. When cutting with the upper part of the chain, the reactive force will push the saw toward you and away from the wood you are cutting.

6. Cut with the bottom part of the chain as much as possible.

WARNING! If you are cutting with a pushing chain and allow the saw to be pushed back far enough to engage the tip of the bar, a kickback may occur. Be especially-cautious regarding nearby objects when cutting with a pushing chain or "under-up." The kickback zone will move INTO such objects during “under up" cutting, increasing the possibility of kickback.

Boring Cut

A boring cut is used to fell large trees. Follow the steps listed below when performing a boring cut.

1. Cut, using the bottom portion of the guide bar tip, until the depth of the cut is equal to the width of the guide bar and deep enough to stop a kickback during steps 2 and 3.

1. Operating at full throttle, align the saw with the direction of cut.

2. With saw at full throttle, press the guide bar straight into the trunk.

WARNIING! Making a boring cut can be dangerous if improperly performed. Only properly trained operators should attempt this technique.

Felling

Felling is more than cutting down a tree. You must also bring it down as near to an intended place as possible without damaging the tree or anything else.

Before Felling:

Carefully consider all conditions which may affect the intended direction of fall, including:

1. Inclination of tree.

2. Shape of crown.

3. Snow load on crown.

4. Wind direction.

5. Obstacles within tree range: e.g., other trees, power lines, roads, buildings, etc.

CAUTION! Always observe the general condition of the tree. Look for decay-and rot in this trunk, which will make it more likely to snap and start to fall before you expect it. Look for dry branches, which may break and hit you when you are working.

Always keep animals and people at least twice the tree length away while felling.

Clear away shrubs and branches from around the tree.

Prepare a path of retreat diagonally away from the felling direction.

Basic Rules for Felling Trees

Normally, the felling consists of two main cutting operations - notching and making the felling cut.

1. Make the upper notch cut on the side of the tree facing the felling direction. Look through the kerf as you saw the lower cut so you do not saw too deeply into the trunk. The notch should be deep enough to create a hinge of sufficient width and strength. The notch opening should be wide enough to direct the fall of the tree as long as possible.

2. Saw the felling cut from the other side of the tree between one and two inches (3-5 cm) above the edge of the notch.

3. Never saw completely through the trunk. Always leave a hinge. The hinge guides the tree. If the trunk is completely cut through, you can lose control over the felling direction.

4. Insert a wedge or a felling lever in the cut well before the tree becomes unstable and starts to move. This will prevent the guide bar from binding in the felling cut if you have misjudged the falling direction. Be sure no people have come into the range of the falling tree before you push it over.

Felling Cut - Trunk Diameter *Less* than Guide Bar Length

Saw with a pulling chain (bottom of guide bar).

Felling Cut - Trunk Diameter *Greater* than Guide Bar Length

CAUTION! Watch out for kickbacks. Do not use the upper tip quadrant of the guide bar tip.

1. Make a boring cut.

2. Saw with a pushing chain. Leave sufficient hinge.

3. Saw around trunk with a pulling chain to complete felling cut.

Felling Cut - Trunk Diameter *More than Twice* Guide Bar Length

1. Cut a large, wide notch.

2. Cut a recess into center of notch.

IMPORTANT! Always leave a hinge on both sides of center cut.

3. Saw around trunk with a pulling chain to complete felling.

Felling Leaning Trees

CAUTION! Excessively leaning trees are under tension and may split easily, causing root end to rise up or be thrown rearwards.

1. Make two notches. The tip formed where the notch meet should point toward the felling direction.

2. Make the felling cut straight from behind, a bit at a time. This method will slow the fall of the tree and allow you get clear.

Lodged Trees

1. Some Suggestions as to How You Can Take Down a Lodged -Tree

If the tree you have felled gets hung up, do nothing hastily. Take a rest and give some thought to the situation in peace and quiet. Consider various alternatives and always choose a safe method even if it takes a little longer.

2. Simple Hang-ups Rolling the Tree

- Determine direction tree can most easily be rolled down.
- Cut tree loose from hinge, leaving a little on the side you intend it to roll down on.
- Using a cant hook or similar tool, roll the tree away from you.
- Lift with a straight back.

CAUTION! If you are not properly positioned when the tree starts to move, you might get caught by the cant hook or the tree itself. If the tree is wedged in another tree's branches, you can exert more rolling force using a cant hook and a long pole. Remember to lift correctly with a straight back.

3. More Difficult Hang-ups

Use a portable or tractor-mounted winch and pull the tree down.

CAUTION! Do not abandon a leaning, hung or lodged tree. It must be taken down, or it can become a danger to other people. Mark off the area if you temporarily have to leave to get assistance.

a. Limbing

Limbing is removing the branches from a felled tree.

- Stand on the left side of the trunk.
- Maintain a secure footing and rest the saw on the trunk.
- Maintain full control, by holding saw close to you.

WARNING! Keep well away from chain.

- Move only when the trunk is between you and the chain.

CAUTION! Watch out for spring back from limbs under tension.

b. Cutting Logs

If you have a pile of logs, each log you attempt to cut should be removed from the pile, placed on a sawhorse or runners and cut individually.

Remove the cut pieces from the cutting area. By leaving them in the cutting area, you increase the risk for inadvertently getting a kickback, as well as increasing the risk of losing your balance while working.

c. Cutting Shrubs, Brush, etc.

Do not use your chain saw to cut shrubs, brush, etc. The possibility of kickback is high. If the stands are close together, it might be impossible to avoid contact with the kickback zone.

A brush cutter has been specially designed for this -7 purpose and can be used safely for all kinds of clearing operations. Your dealer will be happy to show how a brush cutter can be of value to you.

d. Cutting Trees or Limbs under Tension

The cut should be made at the tree's breaking point: the point where the tree would break if it was bent further. That point is normally where the bend is most pronounced. At the breaking point, the forces are trying to push the tree outward. If you are not cutting a the breaking point, the longest section of the stem, besides trying to push outwards, will also try to push along the trunk after it has broken. That makes the forces harder to predict and increases the danger.

- Position yourself inside the bend.
- Start to cut a V-cut on your side, inside the bend. Cut up to 1/4 of the diameter of the trunk. Watch so the saw does not get pinched.

- Remaining on the inside of the bend, move the saw over to the opposite side.
- Cut slowly to reduce tension.

IMPORTANT! To avoid pinching the saw when the first cut is made, it is recommended to make a V-cut. Make it in small steps. This will cause the tree to break slowly, giving you time to back out of the way.

e. Small Trees and Limbs under Tension

- Always stay on the inside of the bend.
- Make your cut at the breaking point.
- If possible, cut along the tree/limb.
- Cut slowly to relieve tension. Stay clear of tree limb path.
- If you must cut across tree/limb, make two to three cuts, one inch apart, one to two-inches deep.
- Continue to cut deeper until tree/limb bends and tension is released.
- Cut tree/limb from outside the bend after tension has been released.

COMPRESSED AIR & GAS

- Compressed air may be used for **cleaning or servicing** of equipment where appropriate.
- When using compressed air, the contractor must ensure the use of a pressure-reducing nozzle or reduce the pressure to **30 psig or lower**.
- Remember, **never** use compressed air to clean **clothes or skin**.

COMPRESSED GAS CYLINDERS

1. The contractor must ensure that all cylinders are:

- **Chained** to prevent them from falling;