

MIOSHA ***General Industry*** ***& Agriculture Standards***

Safety & Health **Training** **Requirements**

Michigan Department of Licensing and Regulatory Affairs
Michigan Occupational Safety & Health Administration
Consultation Education & Training Division
www.michigan.gov/miosha
(517) 322-1809



NOTE:

This training requirement guide book identifies "specific employee training requirements" that are the sole responsibility of employers or employee representatives. This guide may not include other standards' requirements for pre-employment or task training, such as training for electricians, engineers, tradesmen, etc., in order to be called "qualified persons." It also may not include requirements for employers and employees to follow manufacturers' instructions for the installation and operation of machinery.

Contents
MIOSHA General Industry Safety
Training Requirements

<u>Part</u>		<u>Page</u>
	Definitions	iv
11	Recording and Reporting of Occupational Injuries and Illnesses..	1
1	General Provisions.....	1
1A	Abrasive Wheels.....	1
3	Fixed Ladders	2
5	Scaffolding	2
6	Fire Exits	5
9	Fixed Fire Equipment	6
12	Welding and Cutting.....	8
14	Conveyors	9
17	Refuse Packers	9
18	Overhead and Gantry Cranes.....	9
19	Crawler, Locomotive, and Truck Cranes.....	13
20	Underhung Cranes and Monorail Systems	14
21	Powered Industrial Trucks	14
22	Tractors	15
23	Hydraulic Power Presses.....	16
24	Mechanical Power Presses.....	16
25	Manlifts (Fed Standard 1910.68)	17
26	Metalworking Machinery	17
27	Woodworking Machinery.....	17
33	Personal Protective Equipment.....	17
433	Personal Protective Equipment (training section same as Part 33).....	17
37	Accident Prevention Signs and Tags	18
38	Hand and Portable Powered Tools	18
39	Design Safety Standards for Electrical Systems.....	19
40	Electrical Safety-Related Work Practices.....	20
42	Forging	22
45	Die Casting	23
49	Slings	23
51	Logging	23
52	Sawmills	25
53	Tree Trimming and Removal	25
54	Powered Groundskeeping Equipment	26
55	Explosives (Fed Standard 1910.109).....	26
56	Storage and Handling and Liquid Propane Gas (Fed Standard 1910.110)	27
57	Oil and Gas Drilling and Servicing	27
58	Aerial Work Platforms.....	28
59	Helicopters	29
62	Plastic Molding.....	31
63	Pulp, Paper, and Paperboard Mills	31

**MIOSHA GENERAL INDUSTRY SAFETY
TRAINING REQUIREMENTS (continued)**

<u>Part</u>		<u>Page</u>
65	Mills and Calendars for Rubber and Plastic	31
71	Laundry and Dry Cleaning Machinery and Operating	31
72	Automotive Service Operations	32
73	Fire Brigades	32
74	Fire Fighting	33
76	Spray Finishing and Dip Tanks	34
77	Grain Handling Facilities	35
78	Anhydrous Ammonia (Fed Standard 1910.111).....	35
79	Diving Operations	36
81	Baking Operations	37
85	Control of Hazardous Energy Sources.....	37
86	Electric Power Generation, Transmission and Distribution	38
90	Confined Space Entry	44
91	Process Safety Management of Highly Hazardous Chemicals ...	45
92	Hazard Communication (Right to Know)	47

MIOsha TRAINING REQUIREMENTS FOR GENERAL INDUSTRY HEALTH

<u>Part</u>	<u>Page</u>
302 Vinyl Chloride.....	49
350 Carcinogens (replaces OH Part 351/Rule 2302).....	49
380 Occupational Noise Exposure.....	50
381 Ionizing Radiation	50
451 Respiratory Protection	51
472 Medical Services and First Aid.....	52
311 1,3 – Butadiene (29 CFR 1910.1051)	52
303 4,4' MethyleneDianiline (MDA)	53
314 Coke Oven Emissions.....	54
504 Diving Operations	55
304 Ethylene Oxide	55
305 Asbestos (29 CFR 1910.1001)	56
306 Formaldehyde.....	57
307 Acrylonitrile (Vinyl Cyanide)	58
308 Inorganic Arsenic	59
313 Methylene Chloride	59
309 Cadmium	60
310 Lead	62
432 Hazardous Waste Operations and Emergency Response.....	63
554 Bloodborne Infectious Diseases	69
431 Hazardous Work in Laboratories	71
311 Benzene	73
591 Process Safety Management of Highly Hazardous Chemicals ...	73
430 Hazard Communication (same as Part 92 – see GI Safety Section)	75
490 Permit Required Confined Spaces (Same as Part 90).....	78
315 Chromium (VI) in General Industry (29 CFR 1910.1026)....	79
511 Temporary Labor Camps.....	79

MIOsha TRAINING REQUIREMENTS FOR AGRICULTURAL OPERATIONS

<u>Part</u>	<u>Page</u>
<i>Safety:</i>	
51 Agricultural Tractors.....	83
53 Farm Field Equipment.....	83
501 Agricultural Operations.....	84
<i>Health:</i>	
500 Agricultural Field Sanitation.....	84

DEFINITIONS

In this training guide, the following definitions shall apply:

Accident Prevention Program

The program by which an employer provides instruction and safety training to an employee in the recognition and avoidance of hazards.

Competent Person

A person who is experienced and capable of identifying an existing or potential hazard in surroundings or under working conditions which are hazardous or dangerous to an employee and who has the authority and knowledge to take prompt corrective measures to eliminate the hazards.

Designated Employee

A qualified person delegated to perform specific duties under the conditions existing.

Operator

An employee who has been trained, tested, and authorized by the present employer to operate (a machine).

Qualified Person

A trained person possessing a recognized degree or certificate of professional standing or who, by extensive knowledge, training, and experience, has demonstrated the ability to solve or resolve problems relating to the subject matter and work.

MIOSHA GENERAL INDUSTRY

SAFETY TRAINING REQUIREMENTS

Administrative Rules

PART 11. RECORDING AND REPORTING OF OCCUPATIONAL INJURIES AND ILLNESSES

Employee Involvement

- R 135 (1)** Basic requirement. Your employees and their representatives must be involved in the recordkeeping system as follows:
- (a) You must inform (train) each employee of how he or she is to report an injury or illness to you.

PART 1. GENERAL PROVISIONS

Each Newly Assigned Employee

- R 11 (a)** Provide training to each newly assigned employee regarding the operating procedures, hazards, and safeguarding of the job.

Do Not Operate Until Trained

- R 12 (a)** An employee shall not operate a machine or equipment until trained in the operating procedures, hazards, and safeguarding and has been assigned to do so by the employer.

PART 1A. ABRASIVE WHEELS

Training, Maintenance and Procedures to Prevent Wheel Overspeed

- R 173** An employer shall establish appropriate training, maintenance, and procedures to assure that wheel overspeed will not occur on an abrasive wheel.

Speed Adjustment

- R 181(1)** A grinding machine with a veri-speed control shall have the speed adjustment supervised by an authorized and trained employee.

Care, Use and Protection of

- R 182** An employee shall be instructed in the care, use, and protection of an abrasive wheel and equipment before assignment.

Truing Wheels

R 185 An out-of-truth abrasive wheel shall be trued by a trained employee. A wheel which cannot be trued shall not be used.

Reporting Defects

R 187(2) An employer shall instruct the employee to report defective equipment to the employee's supervisor.

PART 3. FIXED LADDERS

Employee Training; ladder use restriction

R 311(1) An employer shall ensure that all employees who use ladders that have a working height of 6 feet (1.82m) or more receive training on how to inspect ladders and how to properly use the ladders.

PART 5. SCAFFOLDING

Suspension Scaffolding

R 524(10) Each scaffold shall be installed or relocated in accordance with designs and instructions of a registered professional mechanical or civil engineer, and such installation or relocation shall be supervised by a competent designated person.

Manufactured Scaffolding

R 541(3) Manufactured scaffolding shall be erected by a competent and experienced employee.

Written Emergency Action Plan

R 568(9) A written emergency action plan shall be developed and implemented for each kind of working platform operation. This plan shall explain the emergency procedure that are to be followed in the event of a power failure, equipment failure, or other emergencies which may be encountered. The plan shall include building emergency escape routes, procedures, and alarm systems to be used by each employee before operating a platform. Upon initial assignment and when the plan is changed, the employer shall review, with each employee, those parts of the plan that the employee is required to know in the event of an emergency.

Inspection, Service and Repair

- R 573(1)** An employer that has a powered platform under the employer's control shall do all of the following:
- (a) Provide operating instructions and a checklist for a visual inspection which shall be used by the operator before each daily use of the platform. The visual inspection shall include a check of the platform controls and safety interlocks.
 - (b) Provide for a physical inspection, and service and repair when required, by a trained and authorized employee or an outside service every 30 days or before each use cycle if the equipment is used less often than every 30 days. The inspection, service, or repair shall be logged to show the date and the signature of the authorized employee or outside service and the work done.

Inspection and Testing

- R 573(1)(c)** Provide for inspections and operating test not less than annually or after major alterations to determine that all components, including safety and operating equipment, conform to the provisions of this standard. Such inspections and operating test shall be made by a trained and authorized employee or outside service.

Governors and Brakes

- R 573(2)** A special inspection of platform governors and secondary brakes shall be made not less than annually by an authorized and trained employee or outside service to verify that the initiating device for the secondary brake operates at the proper overspeed. If a test cannot be made in the field, the initiating device or hoisting machine, or both, shall be removed from the building and sent to a shop equipped to make such a test. When the tested parts are reinstalled, the powered platform shall be reinspected before returning it to service.

Electrical Protection Devices

- R 577(6)(c)** An automatic detector shall be provided for each suspension point which will interrupt power to all hoisting motors for travel in the "down" direction and which will apply the primary brakes if any suspension wire rope becomes slack. A continuous-pressure rigging-bypass switch that is designed for use during rigging is permitted. This switch shall only be used by authorized personnel during rigging.

Inspection of related building supporting structures

R 579 (1) Related building supporting structures shall undergo periodic inspection by a competent person at intervals of not more than 12 months.

R 579(2) All parts of the equipment, including control systems, shall be inspected and, where necessary tested by a competent person at intervals specified by the manufacturer and supplier, but not more than 12 month intervals to determine that equipment parts are in safe operating condition. Parts that are subject to wear, such as wire ropes, bearings, gears, and governors, shall be inspected or tested to determine that they have not worn to such an extent as to affect the safe operation of the installation.

Intervals of Maintenance Inspections and Tests

Rule 580. (1) A maintenance inspection and, where necessary, a test shall be made of each platform installation every 30 days. If the work cycle is less than 30 days, such inspection and test shall be made before each work cycle. This inspection and test shall follow the procedures recommended by the manufacturer and shall be made by a competent person.

Governors and Secondary Brakes

R 581(5) Inspection of governors and secondary brakes shall be performed; by a competent person.

Wire, Fiber and Synthetic Rope

R 582(9) Suspension wire rope shall be inspected by a competent person for visible defects and gross damage to the rope before every use and after each occurrence that might affect the wire rope's integrity.

R 582(10) A thorough inspection of suspension wire ropes in service shall be made once a month. Suspension wire ropes that have been inactive for 30 days or more shall have a thorough inspection before they are placed into service. These thorough inspections of suspension wire ropes shall be performed by a competent person.

Platform Operator Training

R 590(1) Working platforms shall be operated only by persons who are proficient in the operation, safe use, and inspection of the particular working platform to be operated.

R 590(2) All employees who operate working platforms shall be trained in all of the following areas:

- (a) Recognition of, and preventative measures for, the safety hazards that are associated with the employee's individual work tasks.
- (b) General recognition and prevention of safety hazards that are associated

- with the use of working platforms.
- (c) Emergency action plan procedures.
- (d) Work procedures.
- (e) Personal fall arrest system inspection, care, use, and system performance.

R 590(3) The training of employees in the operation and inspection of working platforms shall be done by a competent person.

R 590(4) Written work procedures for the operation, safe use, and inspection of working platforms shall be provided for employee training. Pictorial methods of instruction may be used in place of written work procedures if employee communication is improved through the use of this method. The operating manuals that are supplied by the manufacturers for platform system components can serve as the basis for these procedures.

R 590(5) An employer shall certify that employees have been trained in the operation and inspection of a working platform by preparing a certification record that includes all of the following information:

- (a) The identity of the person trained.
- (b) The signature of the employer or the person who conducted the training.
- (c) The date that training was completed.

The certification record shall be prepared at the completion of the training and shall be maintained in a file for the duration of the employee's employment. The certification record shall be kept readily available for review by the director of the Department of Energy, Labor & Economic Growth or his or her designated representative.

PART 6. FIRE EXITS

Employee Emergency Plans

Notification of emergency escape procedures and routes; designation of evacuation assistants

R 608(1) An employer shall assure that employees are informed of emergency escape procedures and emergency routes to approved means of egress.

R 608(2) An employer shall designate a sufficient number of persons to assist in the safe and orderly emergency evacuations of employees.

R 623(5) Before implementing the emergency action plan, an employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees. The employer shall review the plan, at the following times, with each employee to whom the plan applies:

- (a) When the plan is developed.
- (b) If an employee's responsibilities or designated actions under the plan changed.
- (c) If the plan is changed.

An employer shall review, with each employee, upon initial assignment, those parts of the plan that the employee must know to protect the employee in an emergency. The written plan shall be kept at the workplace and made available for employee review.

R 624(4) An employer shall inform employees of the fire hazards of the materials and processes to which they are exposed.

R 624(5) An employer shall review, with each employee, upon initial assignment, those parts of the fire prevention plan that the employee must know to protect the employee in an emergency. The written plan shall be kept in the workplace and made available for employee review.

Part 9. FIXED FIRE EQUIPMENT

Pre-Assignment Training

R 911(2) An employer shall furnish training to an employee before assignment to perform maintenance on a fixed fire equipment system.

Equipment Service and Inspections

R 912 An employer shall not perform maintenance or make inspection on fixed fire equipment unless trained for the type of equipment to be maintained or inspected and has been authorized to do so.

Inspection of Standpipes and Hose Systems

R.937(1) An inspection of all portions of a standpipe and hose system shall be made not less than once a year by a trained and authorized employee or an outside service.

Hazardous Atmospheres

R.945(1) Where there is a possibility that an employee may be trapped in, or enter into, an atmosphere made hazardous by a carbon dioxide discharge, the following safeguards shall be provided:

- (a) Predischarged and discharged alarm.
- (b) Warning signs.
- (c) Employee training.
- (d) Self-contained breathing apparatus.

Inspection of Extinguishers

- R 946** A carbon dioxide extinguishing system shall be inspected by a trained and authorized employee or outside service:
- (a) Not less than annually to insure operability.
 - (b) Not less than semi-annually to insure that all high-pressure cylinders are at the designed weight.
 - (c) Not less than annually to check the accuracy low-pressure system liquid level gauges.
 - (d) If a container shows a loss of more than 10%, it shall be refilled, unless the minimum gas requirements are still provided.
 - (e) A tag shall be affixed showing the date of inspection.
- R 955** A dry chemical extinguishing system shall be inspected by a trained and authorized employee or outside service:
- (a) Not less than annually to insure operability.
 - (b) Not less than semi-annually to insure the installed expellant gas containers are at the designed pressure or weight.
 - (c) Not less than semi-annually to insure the stored pressure dry chemical container is at the designed pressure.
 - (d) A tag shall be affixed indicating the date of inspection.
- R 965(1)** A high expansion or synthetic and combined agent foam system shall be inspected by a trained and authorized employee or outside service no less than once a year to insure operability.
- R 965(2)** A foam-water system shall be inspected (by a trained and authorized employee) not less than every 6 months.
- R 965(3)** Strainers shall be inspected (by a trained and authorized employee) and cleaned after each use.

Hazardous Atmospheres

- R 975(1)** Where there is a possibility that an employee may be trapped in, or may enter into, an atmosphere made hazardous by the discharge of Halon 1301 extinguishing agent, the following safeguards shall be provided:
- (c) Employee training.

Inspection of Extinguishers

- R 976** A halogenated extinguishing systems shall be inspected by a trained and authorized employee or by an outside service not less than once a year to insure operability.

R 984 A local fire alarm system shall be tested by a trained and authorized employee or an outside service not less than once a week to insure operability by the activation of not less than 1 box.

R 995(3) Servicing, maintenance, and testing of detection systems shall be performed by trained persons knowledgeable in the operation and function of the system.

Part 12. WELDING AND CUTTING

Pre-Task Training

R 1211(1) An employer shall do all of the following:

- (a) Give each employee training or a test before allowing him or her to use equipment for arc and gas welding and cutting.

R 1211(2) An employee shall comply with all of the following:

- (a) Use welding and cutting equipment as trained and authorized.

Fuel Supply Requirements

R 1211(3) An employee in charge of the operation of oxygen or fuel-gas supply equipment shall be instructed and judged competent by the employer for this work before being left in charge. Rules and instructions covering the operation and maintenance of oxygen or fuel-gas supply equipment, including generators and oxygen or fuel-gas distribution piping systems, shall be readily available.

Rescue Operations

R 1213(5) An employee who is trained in rescue procedures, and with such equipment as is necessary to effect a rescue, if needed, shall be stationed outside the confined space during welding or cutting operations.

Refilling Cylinders

R 1224(6) Only the owner of the cylinder, if the owner is qualified, or a person trained, qualified, and authorized by the owner, shall refill a cylinder.

Repairs of Regulators

R 1254 (c) Regulators shall be repaired by authorized and trained personnel, or be returned to the supplier for calibration or repairs.

Cutting and Welding

R 1261(1) Cutting and welding shall be done in designated areas free of flammable or conditions favorable to fire or explosion. If it is not practical to perform the work

in a designated area, a person shall be assigned responsibility for fire safety of the job and shall take the following action after inspecting the job site and designation precautions to be taken:

- (d) Have appropriate portable fire extinguishers on hand for use by trained employees.

Maintenance of Arc Welding Machines

R 1276(2) Equipment in need of repair that constitutes a safety hazard shall not be used or put in use until repairs are made by a knowledgeable employee or outside service.

R 1281(4) A resistance welding machine shall be installed by a qualified employee under the direction of a licensed electrician or supervised by a welding engineer.

PART 14. CONVEYORS

Conveyor Training

R 1411(1) An employer shall provide training to an employee working on or by a conveyor regarding the hazards and safeguards of such work.

PART 17. REFUSE PACKERS

Pre-Assignment Training

R 1711 (a) An employer shall provide instruction and training before assigning employee to a refuse packer unit.

Use of Refuse Packer Unit

R 1713 (c) An employee shall use a refuse packer unit only after instructed and trained in its safe operation.

PART 18. OVERHEAD AND GANTRY CRANES

Employer Responsibilities

R 1808. (1) An employer shall comply with the manufacturer's specifications and limitations applicable to the operation of cranes. If a manufacturer's specifications are not available, then the limitations assigned to the equipment shall be based on the determination of a qualified engineer who is competent in the field of equipment limitations, and the determination shall be appropriately documented and recorded. Attachments that are used with

cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.

- (2) An employer shall designate a qualified person to perform all inspections of cranes as required by this part.
- (3) An employer shall limit the use of a crane to the following entities:
 - (a) An employee who has been trained and qualified to operate the type of crane to which he or she is assigned.
 - (b) A learner who is under the direct supervision of a designated operator.
 - (c) Designated maintenance personnel while performing their duties.

Pre-Assignment Training

- R 1852.** (1) An employer shall train a prospective operator before the employee's assignment as an operator of a crane. An employer shall ensure that a designated individual authorized by the employer to perform the training has the knowledge, training, and experience to train and to evaluate the competence of the prospective operator and to provide refresher training to an operator when it is required. Training shall include all of the following:
- (a) Capacities of equipment and attachments.
 - (b) Purpose, use, and limitation of controls.
 - (c) How to make daily checks.
 - (d) The energizing sequences, including pneumatic, hydraulic, and electrical sequences.
 - (e) Start-up and shutdown procedures.
 - (f) Emergency shutdown procedures.
 - (g) General operating procedures.
 - (h) All basic signaling procedures, including hand, radio, or telephone signals, where required.
 - (i) Knowledge of general industry safety standard Part 18. "Overhead and Gantry Cranes," being R 408.11801 et seq., which is referenced in R 408.11807 and other applicable MIOSHA standards, and company rules and regulations.
 - (j) Practice in operating the assigned equipment through the mechanical

functions necessary to perform the required task.

(k) Maximum rated capacity of the crane.

- (2) Training shall consist of a combination of formal instruction, practical training, and testing of the operator's performance, as required in R 408.11853.
- (3) Refresher training in relevant topics shall be provided to an operator under any of the following conditions:
 - (a) An operator has been observed to operate the crane in an unsafe manner.
 - (b) An operator has been involved in an accident or a near-miss incident.
 - (c) An operator has received an evaluation that reveals that the operator is not operating the crane safely.
 - (d) An operator is assigned to a different type of crane.
 - (e) A condition in the workplace changes that could affect safe operation of the crane.
- (4) Maintenance personnel, crane inspectors, and all other users of the crane shall be trained as required in subrule (1) of this rule.
- (5) A rigger shall be trained in all of the following:
 - (a) The requirements of general industry safety standard Part 18. "Overhead and Gantry Cranes," being R 408.11801 et seq., which is referenced in R 408.11807.
 - (b) Knowledge of general industry safety standard Part 49. "Slings," being R 408.14901 et seq., which referenced in R 408.11807.
 - (c) Knowledge of general industry safety standard Part 33. "Personal Protective Equipment," being R 408.13301 et seq., which is referenced in R 408.11807.
 - (d) Maximum capacity of the crane.
 - (e) Rigging procedures.
 - (f) Company rules and regulations.

Testing.

- R 1853.(1)** An employer shall test the knowledge and ability of an employee before authorizing him or her to operate a crane. The test shall determine all of the following with respect to the employee:
- (a) Ability to operate the equipment through its functions necessary to perform the required jobs.

- (b) Knowledge of equipment.
 - (c) Knowledge of daily checks and inspection requirements.
 - (d) Knowledge of applicable MIOSHA standards and company rules and regulations.
- (2) A performance test shall be given to determine that the employee can operate the assigned crane or cranes through the functions necessary to perform the required task.

Permits.

R 1854(1) An employer shall provide an employee with a permit to operate a crane only after the employee meets the requirements prescribed in R 408.11852, and R 408.11853 et seq.

(2) An employee being trained is exempt from the permit requirement for a period of not more than 30 calendar days if the employee is under the supervision of an individual who is authorized by the employer and who has the knowledge, training, and experience to train operators and to evaluate their competence, and if the training period does not endanger the trainee or other employees.

(3) A permit shall be carried by an operator or be available upon request of a department representative at all times during working hours.

(4) A permit shall indicate the type of crane or cranes an operator has been trained on and is qualified to operate, as required in R 408.11852 et seq. 9

(5) A permit to operate a crane is valid only with the employer who issued the permit, and the permit shall be issued for a period of not more than 3 years.

Use of Cranes

R 1855 An employer shall limit the use of a crane to an employee who has been trained and qualified to operate the type of crane to which they are assigned.

Initial and Shift Inspections

R 1871 (1) New, reinstalled, altered, repaired, and modified cranes shall be inspected by a designated person before initial use to verify compliance with applicable provisions of these rules. Inspection of altered, repaired, and modified cranes may be limited to the provisions affected by the alteration, repair, or modification, as determined by a qualified person.

Frequent and Periodic Inspections

R1872(1)(c) Each crane designed and manufactured prior to January 1, 1971 shall be inspected at least monthly. The inspection schedule may be modified based on

documented inspection and repair history and a qualified person's recommendations.

Unsafe Conditions

R 1875(2) An unsafe condition on a crane determined by an inspection shall be corrected by a designated trained employee or an outside crane service company before the crane is put back into operation.

PART 19. CRAWLER, LOCOMOTIVE, AND TRUCK CRANES

Use of

R 1911(1) An employer shall limit the use of a crawler, locomotive, or truck crane to:

- (a) An employee who has been trained and qualified to operate the type of crane to which he or she is assigned.
- (b) An employer shall limit the use of a crawler, locomotive, or truck crane to a learner under the direct supervision of a designated employee.

Pre-Assignment Training

R 1914 An employer shall provide training to a prospective crane operator prior to assignment as an operator of a crane. Instruction shall include:

- (a) Capabilities of the equipment and attachments.
- (b) Purpose, use, and limitation of the controls.
- (c) How to make daily inspections of the equipment.
- (d) Practice in operating assigned equipment through the functions necessary to perform the job.
- (e) A review of state standards, company rules, and regulations applicable to crane operation.

Operator testing.

R 1915 An employer shall determine the ability of an employee before authorizing the employee to operate a crane. This determination shall be based on the employee's:

- (a) Operating ability.
- (b) Knowledge of the equipment.
- (c) Knowledge of state standards, company rules and regulations applicable to crane operation.
- (d) Knowledge of daily inspections of the equipment.

Use of Extinguishers

R 1942 A portable dry powder fire extinguisher with not less than 5 BC rating, or equivalent, shall be kept in the cab or in the operating enclosure, or on the unit. The operator and maintenance employees shall be trained in its use.

Inspection of

R 1951(1) The inspection of a crawler, locomotive, or truck crane covered by rules 1952 to 1956 shall be made by an authorized and trained employee or outside service.

Maintenance Program

R 1971(1) An employer shall establish and maintain a preventative maintenance program under the supervision of an authorized and trained employee or outside service.

PART 20. UNDERHUNG CRANES AND MONORAIL SYSTEMS

Operator Training

R 2022 An employer shall train a prospective operator before assignment as an operator of a crane or monorail system. Training shall include all of the following:

- (a) Capabilities of equipment and attachments.
- (b) Purpose, use, and limitation of controls.
- (c) How to make daily visual inspections.
- (d) Practice in operating assigned equipment through its functions necessary to perform the required jobs.
- (e) A review of applicable state standards.

Limitations on Use of a Cab-Operated Crane or Monorail Equipment

R 2024(1) An employer shall limit the use of a cab-operated crane or monorail equipment to the following:

- (a) An employee who has been trained and qualified to operate the type of crane or monorail equipment to which the employee is assigned.
- (b) A learner under the direct supervision of a qualified person.
- (d) Maintenance personnel, during performance of their duties, who have been trained and qualified to operate that type of equipment.

PART 21. POWERED INDUSTRIAL TRUCKS

Pre-Assignment Training

R 2152 An employer shall provide training to the employee before the employee's assignment as an operator of a powered industrial truck. Instruction shall include all of the following:

- (a) Capabilities of the equipment and attachments.
- (b) Purpose, use, and limitations of controls.
- (c) How to make daily checks.
- (d) Practice and operating assigned vehicles through the mechanical

- functions necessary to perform the required job.
- (e) State safety standard rules 2171 to 2193 of Part 21. Powered Industrial Trucks, being R 408.12171 to R 408.12193 of the Michigan Administrative Code.
 - (f) Hazards associated with exhaust gases produced by fossil fuel powered industrial trucks (e.g. carbon monoxide, components of diesel exhaust), and hazards associated with the handling of electrolyte chemicals used for battery operated trucks (e.g. sulphuric acid), shall be provided in accordance with the Michigan Right To Know Law, "Hazard Communications" standards 29 C.F.R. '1910.1200 as adopted by R 408.19202 and R 325.77002.

Type of Permit

- R 2154(4)** A permit shall indicate the type of truck an operator has been trained on and is qualified to operate.

Mechanical Conditions and Maintenance

- R 2161(9)** All repairs shall be made by authorized personnel.

Battery Charging

- R 2164(1)** Where electric trucks are used, an employer shall provide a designated area for battery changing, charging, or both which shall be performed by a trained and authorized employee.

PART 22, TRACTORS

Pre-Assignment Training

- R.2232** An employer or his designated representative shall provide training to an employee prior to the employee's assignment as an operator of a tractor. Instruction shall include:
- (a) Capabilities of the equipment and attachments.
 - (b) Purpose, use, and limitation of the controls.
 - (c) How to make daily inspections of the equipment.
 - (d) Practice operating assigned tractors through the function necessary to perform the required jobs.
 - (e) Use of seat belts.

Training Program

- R.2234** An employer shall establish a procedure that assures that an employee is trained and qualified to operate a tractor prior to authorizing the employee to operate a tractor. A permit system may be used to comply with this rule.

Mechanical Conditions and Maintenance

R.2235(6) All repairs and modifications shall be made by authorized and qualified personnel.

PART 23, HYDRAULIC POWER PRESSES

Adjustments

R.2326(2) Adjustments shall be verified by qualified and authorized personnel before the press is returned to production. Qualification for such personnel shall include a knowledge of table 2. With the use of an adjustable press-barrier device, authorized personnel shall be instructed regarding proper adjustments of the device and that these adjustments are an important part of their jobs. An operator shall not be allowed to make any adjustments without approval of supervisory personnel.

R.2334(2) Authorized personnel shall be trained and shall be responsible for proper adjustment of the device for each die setup and operator change. They shall make periodic inspections to determine the condition of worn and broken parts which shall be replaced before permitting operation.

Pre-Assignment Training

R.2371 Before starting work on a press and, before starting work on an operation with which the operator is not familiar, he shall be carefully instructed in that particular operation and in the safe method of work.

PART 24, MECHANICAL POWER PRESSES

Pre-Assignment Training

R.2411(1) An employer shall train and instruct the operator in the safe method of work before starting work on any operation covered by this part. The employer shall insure, by adequate supervision, that all required safeguards are installed, functional, and are being used.

R.2411(2) An employer shall train and instruct maintenance and inspection personnel responsible for the care, inspection, and maintenance of mechanical power presses and assure that they are knowledgeable in these rules.

R.2411(5) An employer shall obtain, from any outside firm that modifies a press, instructions that are needed to establish new or changed guidelines for the care and use of the modified press.

PART 25, MANLIFTS

(Federal Standard 1910.68)

Use of

R.2501(b)(1) This section applies to manlifts used to carry only personnel trained and authorized by the employer in their use.

PART 26, METALWORKING MACHINERY

Job Hazards Training

R.2611 (a) An employer shall provide training to each employee as to the hazards and safe operation of the assigned job.

Use of Machinery and Equipment

R.2612 (a) An employee shall not use machinery and equipment unless authorized and trained in its use.

PART 27, WOODWORKING MACHINERY

Pre-Assignment Training

R.2799 Before an inexperienced workman is permitted to operate a woodworking machine, he shall be given careful instructions in the hazards of the machine and the safe method of operation.

PART 33, PERSONAL PROTECTIVE EQUIPMENT

Training

R.3309(1) An employer shall provide training to each employee who is required by this part to use personal protective equipment. Each employee who is required by this part to use personal protective equipment shall be trained in the following areas:

- (a)** When personal protective equipment is necessary.
- (b)** What personal protective equipment is necessary.
- (c)** How to properly don, doff, adjust and wear the personal protective equipment.
- (d)** The limitations of the equipment.
- (e)** The useful life of the equipment and the proper care, maintenance and disposal of the equipment.

R.3309(2) Each affected employee shall demonstrate an understanding of the training specified in subrule (1) of this rule and the ability to use the equipment properly before being allowed to perform work requiring the use of personal protective equipment.

R.3309(3) When an employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by subrule (2) of this rule, the employer shall retrain the employee. The existence of any of the following circumstances requires retraining:

- (a) Changes in the workplace that render previous training obsolete.
- (b) Changes in the types of personal protective equipment to be used that render previous training obsolete.
- (c) Inadequacies in an affected employee's knowledge or use of assigned personal protective equipment which indicate that the employee has not retained the requisite understanding or skill.

R.3309(4) An employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained and the date of training and that identifies the subject of the certification.

Head Protection Use

R.3370(5) An employee shall use the provided head protection equipment in accordance with instructions and training received.

PART 37, ACCIDENT PREVENTION SIGNS AND TAGS

Danger Signs

R.3711(3) An employee shall be instructed that a danger sign indicates immediate danger and that special precautions are necessary.

R.3713(3) An employee shall be instructed that a caution sign indicates a possible hazard and that proper precaution shall be taken.

R.3715(1) A safety instruction sign shall be used for a general instruction or suggestion relative to safety awareness.

PART 38, HAND AND PORTABLE POWERED TOOLS

Use of Tools

R.3811 (a) An employer shall ensure that an employee has been trained in the use of hand tools and portable powered tools before authorizing their use.

Modifying Tools

- R.3824** A tool and its power source shall not be modified, except by an authorized and trained employee or qualified outside service.
- R.3872(1)** An employer who uses powder-actuated tools shall establish and maintain, at the place of employment, a list or other record of employees qualified and trained to operate powder-actuated tools of the type provided by the employer.

Trainer

- R.3872(2)** An employee shall receive training and instruction from 1 of the following:
- (a)** A dealer or distributor of powder-actuated tools who has been authorized by the tool manufacturer to provide such training.
 - (b)** An authorized employee of a powder-actuated tool manufacturer.
 - (c)** An employer or authorized employer representative.

Training Curriculum

- R.3873 (1)** The training of an employee to use a powder-actuated tool shall, at a minimum, include the following:
- (a)** Cleaning.
 - (b)** Inspection.
 - (c)** Operation.
 - (d)** Use Limitations.
 - (e)** Powder Levels.
 - (f)** Misfire Procedures.
- R.3873 (2)** Before approving an employee as an operator of a powder-actuated tool, the employer shall have the employee demonstrate competence by actually operating the powder-actuated tool in a safe manner.

PART 39, DESIGN SAFETY STANDARDS FOR ELECTRICAL SYSTEMS

1910.304

- (g)(1)(v)(c)(2)** The conditions of maintenance and supervision assure that only qualified (trained) persons will service the installation.

1910.304

- (f)(1)(v)(c)(2)** The conditions of maintenance and supervision assure that only qualified (trained) persons will service the installation.

PART 40, ELECTRICAL SAFETY-RELATED WORK PRACTICES

Employees at Risk and Type of Training

- R.4002(1)** The training requirements contained in this rule apply to employees who face a risk of electrical shock that is not reduced to a safe level by the electrical installation requirements of 29 C.F.R. ' 1910.303 to 1910.308.
- R.4002(2)** Employees who are in occupations that are required to be trained. Other employees who also may reasonably be expected to face comparable risk of injury due to electric shock or other electrical hazards shall also be trained.
- R.4002(3)** Employee shall be trained in, and familiar with, the safety-related work practices required by these rules that pertain to their respective job assignments.
- R.4002(4)** Employees who are regulated by the provisions of subrules (1) to (3) of this rule, but who are not qualified persons, shall also be trained in, and familiar with, any electrically related safety practices which are not specifically addressed by these rules, but which are necessary for employee safety.
- R.4002(5)** Qualified persons, that is those who are permitted to work on or near exposed energized parts, shall, at a minimum, be trained in, and familiar with, all of the following:
- (a)** The skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment.
 - (b)** The skills and techniques necessary to determine the nominal voltage of exposed live parts.
 - (c)** The clearance of distance specified in R 408.14005 and the corresponding voltages to which the qualified person will be exposed.

For the purpose of these rules, a person shall have the training that is required by the provisions of this subrule to be considered a qualified person. Qualified persons whose work on energized equipment involves either direct contact or contact by means of tools or materials shall also have the training that is needed to meet the requirements of R408.14005(2).

- R.4002(6)** The training that is required by this rule shall be classroom or on-the-job training. The degree of training provided shall be determined by the risk to the employee.

TABLE 1

**Typical Occupational Categories of Employees Who Face a
Higher Than Normal Risk of Electrical Accident**

OCCUPATION

Blue collar supervisors*	Industrial machine operators*
Electrical and electronic engineers*	Mechanics and repairers*
Electrical and electronic equipment assemblers*	Painters*
Electrical and electronic technicians*	Riggers and roustabouts*
Electricians	Stationary engineers*
	Welders

*Workers in these groups do not need to be trained if their work or the work of those they supervise does not bring them or the employees they supervise close enough to exposed parts of electric circuits that operate at 50 volts or more to ground for a hazard to exist.

Controlling Devices

R.4004(2) (c) All persons who have access to controlling devices shall be trained in, and familiar with, the employers tagging procedure.

Working on Energized Equipment

R.4005(2) Only qualified persons may work on electrical circuit parts or equipment that have not been de-energized under the procedures specified in R 408.14004. Such persons shall be trained to work safely on energized circuits and shall be familiar with the proper use of all the following:

- (a) Special precautionary techniques.
- (b) Personal protective equipment.
- (c) Insulating and shielding materials.
- (d) Insulated tools.
- (e) Testing equipment.

PART 42, FORGING

Use of Tongs

R.4227(2) Tongs shall be of sufficient length to clear the body of the worker in case of kickback, and shall not have sharp handle ends. The worker should be instructed in the proper body position when using tongs. Tongs should be checked periodically to see that they remain at the proper hardness level for the job. When rings or equivalent devices for locking tongs are used, they should be inspected periodically to ensure safe conditions.

Safety inspection

R.4252(2) A periodic and regular maintenance safety inspection shall be made of forging machinery and equipment, including guards and point of operation protection devices by a trained and authorized employee.

R.4208(2) Definition: Trained and authorized@ means to have received instructions regarding specified duties and to have permission to perform those duties.

PART 45, DIE CASTING

Training

- R.4507(1)** All employers shall provide training to an employee regarding the operating procedures, hazards, and safeguards of any assigned job.
- R.4508(1)** An employee shall not operate a machine unless trained in its operating procedure, hazards, and safeguards, and has been authorized to operate it.
- R.4508(3)** An authorized employee shall remove guards from a machine for maintenance or set up only. The guards shall be replaced before the machine is returned for production.

PART 49, Slings

Inspections Generally; Removal of Slings From Service

- R.4912(1)** A sling and all fastenings shall be inspected for damage and defects by a designated employee before each days use.

PART 51, LOGGING

Pre-Assignment Training

- R.5112** Before an employee is put to work on a new job, an employer shall:
- (a)** Familiarize the employee with the type of work to be performed on the job.
 - (b)** Instruct the employee in the safeguard and hazard of his assigned job.
 - (c)** Instruct the employee in the operation, adjustment, maintenance, and safe practices of equipment.
 - (d)** Issue an operator's permit card of the type prescribed in Rule 2154 of general industry safety standard, Part 21 (Powered Industrial Trucks).
- R.5113** **(h)** An employer shall only permit a designated and trained employee to operate logging equipment.

First Aid Training

- R.5114(4)** An employer shall have not less than one employee at a jobsite who is trained in red cross first aid or who has equivalent training.
- R.5114(5)** An employer shall assure that each employee, including supervisors, receives or has received first aid and cardiopulmonary resuscitation (CPR) training that is in compliance with the requirements specified in subrule (11) of this rule.

R.5116 (d) "An employee" . . . shall not operate a machine without experience, instruction, and authorization.

Training

R.5119(1) An employer shall provide training for each employee, including supervisors, at no cost to the employee.

R.5119(2) The training shall be provided as follows:

- (a) As soon as possible after the effective date of these amendatory rules for initial training for each current and new employee.
- (b) Before initial assignment for each new employee.
- (c) When an employee is assigned new work tasks, tools, equipment, machines or vehicles.
- (d) When an employee demonstrates unsafe job performance.

R.5119(3) At a minimum, training shall consist of all of the following elements:

- (a) The safe performance of assigned work tasks.
- (b) The safe use, operation and maintenance of tools, machines and vehicles that the employee uses or operates, including an emphasis on understanding and following the manufacturer's operating and maintenance instructions, warnings and precautions.
- (c) The recognition of safety and health hazards associated with the employee's specific work tasks, including the use of measures and work practices to prevent or control the hazards.
- (d) The recognition, prevention and control of other safety and health hazards in the logging industry.
- (e) The procedures, practices and requirements of the employer's worksite.
- (f) The requirements of these rules.

R.5119(4) The training of an employee due to unsafe job performance or before the assignment of new work tasks, tools, equipment, machines or vehicles may be limited to the elements in subrule (3) of this rule that are relevant to the circumstances giving rise to the need for training.

R.5119(5) Each current employee who has received training in the particular elements specified in subrule (3) of this rule shall not be required to be retrained in those elements.

R.5119(6) Each current employee who has received training in the particular elements specified in subrule (3) of this rule shall not be required to be retrained in those elements before initial assignment.

R.5119(7) An employer shall train each current and new employee in the elements for which the employee has not received training.

R.5119(8) Each new employee and each employee who is required to be trained shall work

under the close supervision of a designated person until the employee demonstrates to the employer the ability to safely perform his or her new duties independently.

R.5119(9) An employer shall verify training by preparing a written certification record that contains all of the following information:

- (a) The name or other identity of the employee trained.
- (b) The date or dates of training.
- (c) The signature of the person who conducted the training or the signature of the employer.

If an employer relies on training conducted before the employee's hiring or completed before the effective date of this rule, then the certification record shall indicate the date on which the employer determined the previous training was adequate.

R.5119(10) The most recent training certification shall be maintained.

R.5119(11) An employer shall hold safety and health meetings as necessary, but at least once each month for each employee. Safety and health meetings may be conducted individually, in crew meetings, in larger groups or as part of other staff meetings.

PART 52, SAWMILLS

Hazard Training

R.5211 (a) An employer shall provide training to each employee as to the hazards and safe operation of the assigned job.

Use of Equipment

R.5212 (d) An employee shall not use machinery or equipment unless authorized and trained in its use.

PART 53, TREE TRIMMING AND REMOVAL

Pre-Assignment Training

R.5311 (a) An employer shall provide training to each new employee regarding the requirements of this standard, the job hazards and safeguards before starting his assigned job. A job briefing shall be conducted before any tree job involving unusual hazards is begun.

Operation of Equipment

- R.5312** (d) An employee shall not operate any equipment unless trained in the operating procedures, hazards, and safeguards, and has been authorized to do so.

Removal of Energized Branches

- R.5321(6)** A branch hanging on a conductor energized at more than 10kv shall be removed after the line is de-energized or removed by an authorized and trained systems operator employee or owner employee using approved protective tools and equipment.

Employee Assistants

- R.5336(2)** Each assisting employee on the ground shall be instructed exactly what he is to do. Other employees shall be cleared to a distance of twice the height of the tree being cut.

PART 54, POWERED GROUNDSKEEPING EQUIPMENT

Pre-Assigned Training

- R.5411** (a) An employer shall provide training to an operator of powered groundskeeping and related equipment regarding the operating procedures, hazards, and safeguards to the assigned job.

Equipment Servicing

- R.5412** (c) An employee shall not operate, lubricate, or provide maintenance of any equipment until trained in the operation, lubrication, maintenance procedures, hazards, and safeguards and has been authorized to do so.

PART 55, EXPLOSIVES

(Federal Standard 1910.109)

Driver or Attendant Training

- R.5501**
(d)(3)(iii) Every motor vehicle transporting any quantity of Class A or Class B explosives shall, at all times, be attended by a driver or other attendant of the motor carrier. This attendant shall have been made aware of the class of the explosive material in the vehicle and of its inherent dangers, and shall have been instructed in the measures and procedures to be followed in order to protect the public from those dangers. He shall have been made familiar with the vehicle he

is assigned, and shall be trained, supplied with the necessary means, and authorized to move the vehicle when required.

Employer Assurance

R.5501

(g)(3)(iii)(a) The operator shall be trained in the safe operation of the vehicle together with its mixing, conveying, and related equipment. The employer shall assure that the operator is familiar with the commodities being delivered and the general procedures for handling emergency situations.

Emergency Procedures

R.5501

(h)(4)(ii)(b) The operator shall be trained in the safe operation of the vehicle, together with its mixing, conveying, and related equipment. He shall be familiar with the commodities being delivered and the general procedures for handling emergency situations.

PART 56, STORAGE AND HANDLING OF LIQUID PROPANE GAS

(Federal Standard 1910.110)

Assigned Personnel Training

R.5601

(b)(16) Personnel performing installation, removal, operation, and maintenance work shall be properly trained in such function.

Standard Watch Service

R.5601

(d)(12)(i) When standard watch service is provided, it shall be extended to the LP-Gas installation and personnel properly trained.

PART 57, OIL AND GAS DRILLING AND SERVICING

Pre-Assignment Training

R.5711(1) (a) The employer shall provide training to an employee regarding the operating procedures, hazards, and safeguards of the assigned task, including the safe handling and use of hazardous substances and the personal protective equipment required.

R.5711(2) (a) An employer shall . . . not use equipment until trained in its operating procedures, hazards, and safeguards and until authorized to do so.

Unusual Hazardous Gases

- R.5717(2)** Where hydrogen sulfide or any other unusually hazardous gas is known or suspected to exist, the employer shall advise the employees of the possible exposure involved and shall provide training and personal protective equipment as required in rule 5711 of this part.
- R.5731(2)** A lockout system shall be established for drilling rig equipment, except on draw works, slush pumps, and rotaries where a tag out system may be used. An employee shall be trained in the use of a lockout system to prevent unexpected energizing of any equipment from any energy source which might inflict injury to personnel. A lock or tag shall not be removed without the approval of the person who installed it or his or her authorized replacement.

PART 58 Aerial Work Platforms

Employer responsibility

- R.5811** The employer shall do all of the following:
- (a) Provide training to employees in the operations, hazards, safeguards, and safe practices described in these rules by a qualified person.
 - (b) insure that employees do not engage in the activities to which these rules apply until such employees have received training.

Employee Responsibility

- R 5812.** An employee shall:
- (a) Operate an aerial device only after being trained in the operations, hazards, safeguards, and safe practices required by these rules by a qualified person and authorized by the employer.

Training; Permits

- R 5815(1)** An employer shall provide to each employee who will operate the aerial work platform with instruction and training regarding the equipment before a permit is issued or reissued. Such instruction and training shall include the following:
- (a) Instruction by a qualified person in the intended purpose and function of each of the controls.
 - (b) Training by a qualified person or reading and understanding the manufacturer's or owner's operating instructions and safety rules.
 - (c) Understanding by reading or by having a qualified person explain, all decals, warnings, and instructions displayed on the aerial work platform.
 - (d) Reading and understanding the provisions of this subrule and subrules (1) to (9) of this rule or be trained by a qualified person on their content.
- (2) An employer shall provide the operator of an aerial work platform with an aerial work platform permit.

- (3) The requirements of subrule (1)(a), (b), (c), and (d) of this rule shall be met before an employee is issued a permit.
- (4) A permit shall be carried by the operator or be available at the job site/work place and shall be displayed upon request by a department of labor and economic growth representative.
- (5) A permit shall indicate the type of aerial work platforms an operator has been trained on and is qualified to operate.
- (6) A permit to operate an aerial work platform is valid only when performing work for the employer who issued the permit. A permit shall be issued for a period of not more than 3 years.
- (7) A permit shall contain all of the following information (see sample permit):
 - (a) Firm name.
 - (b) Operator's name.
 - (c) Name of issuing authority. (Authorized by).
 - (d) The following types of aerial work platforms the operator is authorized to operate:
 - (i) Vehicle-mounted elevating work platform such as:
 - (1) Extensible boom aerial devices.
 - (2) Aerial ladders.
 - (3) Articulating boom aerial devices.
 - (4) Vertical towers.
 - (ii) Manually propelled elevating work platforms.
 - (iii) Boom-supported elevating work platforms.
 - (iv) Self-propelled elevating work platforms.
 - (e) Date issued.
 - (f) Expiration date.
- (9) The manufacturer's operating instructions and safety rules shall be provided and maintained in a legible manner on each unit by the employer

PART 59, HELICOPTERS

External Lift Operations

- R.5911 (1)** An operator of a helicopter or a rotorcraft conducting external lifting operations shall have an operator's certificate for rotorcraft operation covering the type of operation being conducted, issued by the federal aviation administration, which shall be displayed within the craft being operated.

Reduced Visibility

- R.5914(2)** The employer shall insure that, when visibility is reduced by dust or other conditions, ground employees are instructed to exercise special caution to keep clear of the main and stabilizing rotors. The employer shall also eliminate, as far as practical, the dust or other conditions reducing the visibility.

Rotating Blades

- R.5921(2)** The employer shall instruct employees and shall ensure that, whenever an approaching or leaving helicopter which has its blades rotating, all employees

shall remain in full view of the pilot and keep in a crouched position. An employee shall not be permitted to work in the area from the cockpit or cabin rearward while blades are rotating, unless authorized by the helicopter operator.

Loading and Unloading

R.5922(1) Ground employees shall be provided and they shall be properly trained to ensure that helicopter loading and unloading operations can be performed safely.

Signal Systems

R.5931(2) The employer shall instruct the aircrew and ground employees on the signal systems to be used, and shall review the system with the employees in advance of lifting the load. This applies to both radio and hand signals. Hand signals where used shall be as shown in Figure 1.

PART 62, PLASTIC MOLDING

Pre-Assignment Training

- R.6211(1)** An employer shall provide training to an employee regarding the operating procedures, hazards, and safeguards of any assigned job.
- R.6212(1)** An employee shall not operate a machine unless trained in its operating procedures, hazards, and safeguards and has been authorized to do so.

PART 63, PULP, PAPER, AND PAPERBOARD MILLS

Pre-Assignment Training

- R.6311 (a)** An employer shall provide training to each employee regarding the hazards and safeguards before starting an assigned job.

Operation of Machinery

- R.6312 (d)** An employee shall not operate any machine or equipment unless trained in the operating procedures, hazards, and safeguards and has been authorized to do so.

Chlorine Dioxide Generating Room

- R.6352(1)** Only a trained and authorized employee shall be permitted into a chlorine dioxide generating room.

PART 65, MILLS AND CALENDARS FOR RUBBER AND PLASTIC

Pre-Assignment Training

- R.6511 (a)** An employer shall provide training to an employee as to the hazards and safe operation of his assigned job.

Use of a Mill or Calendar

- R.6512 (a)** An employee shall not use a mill or calendar unless trained and authorized in its use.

PART 71, LAUNDRY AND DRY CLEANING MACHINERY AND OPERATING

Pre-Assignment Training

- R.7111 (a)** An employer shall provide training to an employee as to the hazards and safe operation of the assigned job.

Use of Equipment

- R.7112 (b) An employee shall not use machinery or equipment unless authorized and trained in its use.

PART 72, AUTOMOTIVE SERVICE OPERATIONS

Pre-Assignment Training

- R.7211 (a) An employer shall provide training to an employee as to the hazards, safe operations of the job, and applicable rules of this part.

Use of Equipment

- R.7212 (b) An employee shall use tools and equipment only when authorized and trained in their use.

Rim Wheel Servicing

- R.7235 (1) An employer shall ensure that each employee who is engaged in servicing multi-piece and single-piece rim wheels demonstrates and maintains his or her ability to service the rims safely and in accordance with these rules.

PART 73, FIRE BRIGADES

Preamble

- R.7301 This standard is applicable to fire brigades, industrial fire departments, and private or contractual-type fire departments when established by an employer, and provides for the organization, training, and personal protective equipment to be used.

Written Training Policy

- R.7310(1) The employer having a fire brigade shall prepare and maintain statement of written policy which establishes the existence of a fire brigade; and the basic organizational structure; the type, amount, and frequency of training to be provided to fire brigade members; the expected number of members in the fire brigade; and the functions that the fire brigade is to perform at the workplace. The organizational statement shall be available for inspection by the director of the Department of Labor and Economic Growth and by employees or their designated representatives.

Pre-Assignment Training

R.7310(3) The employer shall provide training and education to all fire brigade members commensurate with those duties and functions that fire brigade members are expected to perform. Such training and education shall be provided to fire brigade members before they perform fire brigade emergency activities. Fire brigade leaders and training instructors shall be provided with training and education which is more comprehensive than that provided to the general membership of the fire brigade.

Quality of Training

R.7310(4) The quality of training and education program for fire brigade members shall be similar to those conducted by such fire training schools as the Maryland Fire and Rescue Institute; Iowa Fire Service Extension; West Virginia Fire Service Extension; Georgia Fire Academy; New York State Department Fire Prevention and Control; Louisiana State University Firemen Training Program; or Washington State Fire Service Training Commission for Vocational Education's.

R.7310(5) The employer shall assure that training and education is conducted frequently enough to assure that each member of the fire brigade is able to perform the member's assigned duties and functions satisfactorily and in a safe manner so as not to endanger fire brigade members or other employees. All fire brigade members shall be provided with training at least annually. In addition, fire brigade members who are expected to perform interior structural fire fighting shall be provided with an education session or training at least quarterly.

R.7310(6) The employer shall inform fire brigade members about special hazards, such as storage and use of flammable liquids and gases, toxic chemicals, radioactive sources, and water reactive substances, to which they may be exposed during fire and other emergencies. The fire brigade members shall also be advised of any changes that occur in relation to the special hazards.

R.7310(7) The employer shall develop and make available for inspection by fire brigade members written procedures that describe the actions to be taken in situations involving the special hazards and shall include these in the training and education program.

PART 74, FIRE FIGHTING

Preamble

R.7401 This part prescribes rules for training; for the construction, care and use of equipment, and for the safeguards to be furnished and maintained as it relates to municipal fire service personnel and equipment. The occupation can be permanent or part time, for pay or volunteer status.

R.7402 A person who is functioning as a municipal fire fighter and who is exposed to the

hazards of an emergency operation shall comply with this part.

Pre-Assignment Training

- R.7411(1) (a)** An employer shall provide training to an employee commensurate with those duties and functions the employee is expected to perform. Such training shall be provided before the employee is permitted to perform emergency operations.

Use of Equipment

- R.7412 (d)** An employee shall not use equipment and tools unless trained and authorized to do so.

Training Curriculum

- R.7421(6)** The training of fire service personnel shall include development of the ability to recognize and identify primary, high voltage transmission, lines and series street lighting construction.

Emergency Scenes

- R.7451(1)** Each fire department shall establish written procedures for emergency scene operations and for an incident command system which shall apply to all employees who are involved in emergency operations. All employees who are involved in emergency operations shall be trained in emergency scene operations and the incident command system.

- R.7451(2)** A trained supervisor or trained designated employee shall be in charge at all emergency scenes.

PART 76, SPRAY FINISHING AND DIP TANKS

Rules. 7605 and R. 7607 were rescinded in 2007

Pre-Assignment Training

- R.7605 (1)** An employer shall provide training to each assigned employee regarding the operation, maintenance, hazards, and safeguards of the job covered by this part.

- R.7607 (1)** An employee shall not operate a machine or equipment until trained in the operating procedures, hazards, and safeguards. The employee shall not operate a machine or equipment until assigned to do so by the employer.

PART 77, GRAIN HANDLING FACILITIES

Emergency Action Training

R.7704(5) Before implementing the emergency action plan, an employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.

Review of Training

R.7704(6) An employer shall review the plan with each employee covered by the plan at all of the following times:

- (a)** Initially when the plan is developed.
- (b)** When an employee's responsibilities or designated actions under the plan change.
- (c)** When the plan is changed.

R.7704(7) An employer shall review, with each employee, upon initial assignment, those parts of the plan which an employee must know to protect the employee in the event of an emergency. The written plan shall be kept at the work place and made available for employee review. For those employers with ten or fewer employees, the plan may be communicated orally to employees and the employer need not maintain a written plan.

Frequency of Training and Curriculum

R.7705 (1) An employer shall provide training to each employee at least annually and when a change in job assignment will expose an employee to new hazards. Current employees and new employees shall be trained in at least both of the following areas:

- (a)** General safety precautions associated with the facility, including recognition and preventative measures for the hazards related to dust accumulations and common ignition sources such as smoking.

R.7717(15) An employer shall assure that servicing, maintenance, and testing of employee alarms are done by persons trained in the designed operations and functions necessary for reliable and safe operation of the system.

PART 78, ANHYDROUS AMMONIA

(Federal Standard 1910.111 - Storage and Handling of Anhydrous Ammonia)

Pre-Assignment and Emergency Training

R.7801

(b)(10)(i) Personnel required to handle ammonia should be trained in safe operating

practices and in the proper action to take in the event of emergencies.

R.7801

(b)(13)(ii) The employer shall insure that unloading operations are performed by reliable persons properly instructed and given the authority to monitor careful compliance with all applicable procedures.

PART 79, DIVING OPERATIONS

R.7912(1) An employer shall ensure that each dive team member has the experience and training that is necessary to perform assigned tasks in a safe and healthful manner. The training and experience shall include all of the following areas:

- (a)** The use of tools, equipment, and systems relevant to assigned tasks.
- (b)** Techniques of the assigned diving mode.
- (c)** Diving operations and emergency procedures.
- (d)** Familiarity with the contents of the safe practices manual that is required pursuant to the provisions of R. 408.179114.

R.7912(2) All dive team members shall be trained in cardiopulmonary resuscitation and first aid by the American red cross or an equivalent organization.

R.7912(3) Each dive team member who is exposed to, or who controls the exposure of others to, hyperbaric conditions shall be trained in diving-related physics and physiology.

R.7913(2) The designated person in charge shall have experience and training in the conduct of the assigned diving operation.

R.7913(3) Each dive team member shall be assigned tasks in accordance with the member's experience or training, except that limited additional tasks may be assigned to an employee who is undergoing training if these tasks are performed under the direct supervision of an experienced dive team member.

R.7924 Dive team members shall be briefed in all of the following areas:

- (a)** The tasks to be undertaken.
- (b)** Operating procedures for the diving mode.
- (c)** Any unusual hazards or environmental conditions that are likely to affect the safety of the diving operation.
- (d)** Any modifications to operating procedures that are necessitated by the specific diving operation.

R.7941 An employer shall comply with all of the following requirements, which are applicable after each diving operation:

- (a)** Check the physical condition of the diver.

- (b) Instruct the diver to report any physical problems or adverse physiological effects, including symptoms of decompression sickness.
- (c) Advise the diver of the location of a decompression chamber that is ready for use.
- (d) Alert the diver to the potential hazards of flying after diving.
- (e) Instruct the diver to remain awake and in the vicinity of the dive location for not less than 1 hour after a dive that requires the use of decompression chamber.

PART 81, BAKING OPERATIONS

- R.8111** (a) An employer shall provide training to an employee as to the hazards and safe practices of the assigned job.

PART 85, CONTROL OF HAZARDOUS ENERGY SOURCES

1910.147

- (c)(1)** **Energy control program.** The employer shall establish a program consisting of energy control procedures, employee training, and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start-up, or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source, and rendered inoperative.

Training and Communication

1910.147

- (c)(7)(i)** The employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:
- (a) Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
 - (b) Each affected employee shall be instructed in the purpose and use of the energy control procedure.
 - (c) All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out.

Use of Tags

1910.147

(c)(7)(ii) When tagout systems are used, employees shall also be trained in the following limitations of tags:

- (a)** Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that are provided by a lock.
- (b)** When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
- (c)** Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area in order to be effective.
- (d)** Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
- (e)** Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.
- (f)** Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Employee Retraining

1910.147

- (c)(7)(iii)**
- (a)** Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment, or processes that present a new hazard, or when there is a change in the energy control procedure.
 - (b)** Additional retraining shall also be conducted whenever a periodic inspection under paragraph (c)(6) of this section reveals, or whenever the employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.
 - (c)** The retraining shall reestablish employees' proficiency and introduce new or revised control methods and procedures, as necessary.

Certification of Training

1910.147

(c)(7)(iv) The employer shall certify that employee training has been accomplished and is being kept up-to-date. The certification shall contain each employee's name and dates of training.

PART 86, ELECTRIC POWER GENERATION, TRANSMISSION AND DISTRIBUTION

Training

1910.269

- (a)(2) (i)** Employees shall be trained and familiar with the safety-related work practices, safety procedures and other safety requirements in this section that pertain to their respective job assignments. Employees shall also be trained in and familiar with any other safety practices, including applicable emergency procedures (such as pole top and manhole rescue), that are not specifically addressed by this section but that are related to their work and are necessary for their safety.
- (ii)** Qualified employees shall also be trained and competent in:
 - (A)** The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
 - (B)** The skills and techniques necessary to determine the nominal voltage of exposed live parts.
 - (C)** The minimum approach distances specified in this section corresponding to the voltages to which the qualified employee will be exposed, and
 - (D)** The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electric equipment.

NOTE: For the purpose of this section, a person must have this training in order to be considered a qualified person.

- (iii)** The employer shall determine, through regular supervision and through inspections conducted on at least an annual basis, that each employee is complying with the safety-related work practices required by this section.
- (iv)** An employee shall receive additional training (or retraining) under any of the following conditions:
 - (A)** If the supervision and annual inspections required by paragraph (a)(2)(iii) of this section indicate that the employee is not complying with the safety-related work practices required by this section, or
 - (B)** If new technology, new types of equipment or changes in procedures necessitate the use of safety-related work practices that are different from those which the employee would normally use, or
 - (C)** If he or she must employ safety-related work practices that are not normally used during his or her regular job duties.

NOTE: MIOSHA would consider tasks that are performed less often than once per year to necessitate retraining before the performance of the work practices involved.

- (v)** The training required by paragraph (a)(2) of this section shall be of the classroom or on-the-job type.

- (vi) The training shall establish employee proficiency in the work practices required by this section and shall introduce the procedures necessary for compliance with this section.
- (vii) The employer shall certify that each employee has received the training required by paragraph (a)(2) of this section. This certification shall be made when the employee demonstrates proficiency in the work practices involved and shall be maintained for the duration of the employee's employment.

NOTE: Employment records that indicate that an employee has received the required training are an acceptable means of meeting this requirement.

1910.269

(a)(3)(b) Medical services and first aid. The employer shall provide medical services and first aid as required in 1910.151. In addition to the requirements of 1910.151, the following requirements also apply:

- (1) Cardiopulmonary resuscitation and first aid training.@ When employees are performing work on or associated with exposed lines or equipment energized at 50 volts or more, persons trained in first aid including cardiopulmonary resuscitation (CPR) shall be available as follows:
 - (i) For field work involving two or more employees at a work location, at least two trained persons shall be available. However, only one trained person need be available if all new employees are trained in first aid, including CPR, within three months of their hiring dates.
 - (ii) For fixed work locations such as generating stations, the number of trained persons available shall be sufficient to ensure that each employee exposed to electric shock can be reached within four minutes by a trained person. However, where the existing number of employees is insufficient to meet this requirement (at a remote substation, for example), all employees at the work location shall be trained.

(c) Job briefing. The employer shall ensure that the employee in charge conducts a job briefing with the employees involved before they start each job. The briefing shall cover at least the following subjects: hazards associated with the job, work procedures involved, special precautions, energy source controls and personal protective equipment requirements.

- (1) **Number of briefings.** If the work or operations to be performed during the work day or shift are repetitive and similar, at least one job briefing shall be conducted before the start of the first job of each day or shift. Additional job briefings shall be held if significant changes, which might affect the safety of the employees, occur during the course of the work.
- (2) **Extent of briefing.** A brief discussion is satisfactory if the work involved is routine and if the employee, by virtue of training and experience, can reasonably be expected to recognize and avoid the hazards involved in

the job. A more extensive discussion shall be conducted if:

- (i) the work is complicated or particularly hazardous, or
- (ii) the employee cannot be expected to recognize and avoid the hazards involved in the job.

NOTE: The briefing is always required to touch on all the subjects listed in the introductory text to paragraph (c) of this section.

- (3) **Working alone.** An employee working alone need not conduct a job briefing. However, the employer shall ensure that the tasks to be performed are planned as if a briefing were required.

1910.269

- (d)(2)
 - (i) The employer shall establish a program consisting of energy control procedures, employee training and periodic inspections to ensure that, before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start up or release of stored energy could occur and cause injury, the machine or equipment is isolated from the energy source and rendered inoperative.
 - (vi) The employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that knowledge and skills required for the safe application, usage and removal of energy controls are acquired by employees. The training shall include the following:
 - (A) Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of energy available in the workplace, and in the methods and means necessary for energy isolation and control.
 - (B) Each affected employee shall be instructed in the purpose and use of the energy control procedure.
 - (C) All other employees whose work operations are or may be in an area where energy control procedures may be used shall be instructed about the procedures and about the prohibition relating to attempts to restart or reenergize machines or equipment that are locked out or tagged out.
 - (vii) When tagout systems are used, employees shall also be trained in the following limitations of tags:
 - (A) Tags are essentially warning devices affixed to energy isolating devices and do not provide the physical restraint on those devices that is provided by a lock.
 - (B) When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored or otherwise defeated.
 - (C) Tags must be legible and understandable by all authorized

employees, affected employees and all other employees whose work operations are or may be in the area, in order to be effective.

- (D) Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
- (E) Tags may evoke a false sense of security and their meaning needs to be understood as part of the overall energy control program.
- (F) Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

(viii) Retraining shall be provided as follows:

- (A) Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard or whenever there is a change in the energy control procedures.
- (B) Retraining shall also be conducted whenever a periodic inspection under paragraph (d)(2)(v) of this section reveals, or whenever the employer has reason to believe, that there are deviations from or inadequacies in an employee's knowledge or use of the energy control procedures.
- (C) The retraining shall reestablish employee proficiency and shall introduce new or revised control methods and procedures, as necessary.

(ix) The employer shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee's name and dates of training.

1910.269(e) (2) Training. Employees who enter enclosed spaces or who serve as attendants shall be trained in the hazards of enclosed space entry, in enclosed space entry procedures and in enclosed space rescue procedures.

(7) **Attendants.** While work is being performed in the enclosed space, a person with first aid training meeting paragraph (b) of this section shall be immediately available outside the enclosed space to render emergency assistance if there is reason to believe that a hazard may exist in the space or if a hazard exists because of traffic patterns in the area of the opening used for entry. That person is not precluded from performing other duties outside the enclosed space if these duties do not distract the attendant from monitoring employees within the space.

NOTE: See paragraph (t)(3) of this section for additional requirements on attendants for work in manholes.

(k) (6) (ii) The employer shall train each employee who is exposed to the

hazards of flames or electric arcs in the hazards involved.

- (o) (1) (ii) Employees shall be trained in safe work practices upon their initial assignment to the test area, with periodic review and updates provided as required by paragraph (a)(2) of this section.
- (g) (3) **Live-line bare-hand work.** In addition to other applicable provisions contained in this section, the following requirements apply to live-line bare-hand work:
 - (i) Before using or supervising the use of the live-line bare-hand technique on energized circuits, employees shall be trained in the technique and in the safety requirements of paragraph (q)(3) of this section.
 - (ii) Before any employee uses the live-line bare-hand technique on energized high-voltage conductors or parts, the following information shall be ascertained:
 - (A) The nominal voltage rating of the circuit on which the work is to be performed,
 - (B) The minimum approach distances to ground of lines and other energized parts on which work is to be performed, and
 - (C) The voltage limitations of equipment to be used.
- (t) (3) **Attendants for manholes.**
 - (i) While work is being performed in a manhole containing energized electric equipment, an employee with first aid and CPR training meeting paragraph (b)(1) of this section shall be available on the surface in the immediate vicinity to render emergency assistance.
 - (ii) Occasionally, the employee on the surface may briefly enter a manhole to provide assistance, other than emergency assistance.

NOTE 1: An attendant may also be required under paragraph (e)(7) of this section. One person may serve to fulfill both requirements. However, attendants required under paragraph (e)(7) of this section are not permitted to enter the manhole.

(x) Definitions

Qualified employee (qualified person). One knowledgeable in the construction and operation of the electric power generation, transmission and distribution equipment involved, along with the associated hazards.

NOTE 1: An employee must have the training required by paragraph (a)(2)(ii) of this section in order to be considered a qualified employee.

NOTE 2: Except under paragraph (g)(2)(v) of this section, an employee who is

undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person is considered to be a qualified person for the performance of those duties.

PART 90, CONFINED SPACE ENTRY

Training

1910.146(d)(8) Designate the persons who are to have active roles (as for example, authorized entrants, attendants, entry supervisors or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of such employee and provide each said employee with the training required by paragraph (g) of this section

1910.146(g) The employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge and skills necessary for the duties assigned under this section.

(2) Training shall be provided to each affected employee:

- (i)** Before the employee is first assigned duties under this section
- (ii)** Before there is a change in assigned duties
- (iii)** Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained
- (iv)** Whenever the employer has reason to believe either that there are deviations from the permit space entry procedures required by paragraph (d)(3) of this section or that there are inadequacies in the employee's knowledge or use of these procedures.

(3) The training shall establish employee proficiency in the duties required by this section and shall introduce new or revised procedures, as necessary, for compliance with this section.

(4) The employer shall certify that the training required by paragraphs (g)(1) through (g)(3) of this section has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

Employees Required To Be Trained Include

- 1910.146 (h)** Authorized entrants
- 1910.146 (i)(4)** Attendants
- 1910.146 (j)** Entry supervisors
- 1910.146 (k)** Rescue services, CPR, First Aid

PART 91, PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS

CHEMICALS

R.9102(g) (1) Training

- (i) Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in paragraph (f) of this section. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.
 - (ii) In lieu of initial training for those employees already involved in operating a process on May 26, 1992, an employer may certify in writing that the employee has the required knowledge, skills, and abilities as specified in the operating procedures.
- (2) **Refresher training.** Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process. The employer, current operating procedures of the process. The employer, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.
- (3) **Training documentation.** The employer shall ascertain that each employee involved in operating a process has received and understood the training required by this paragraph. The employer shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

R.9102(h) (2) Employer responsibilities.

- (i) The employer, when selecting a contractor, shall obtain and evaluate information regarding the contract employer's safety performance and programs.
 - (ii) The employer shall inform contract employers of the known potential fire, explosion or toxic release hazards related to the contractor's work and the process.
 - (iii) The contract employer shall explain to contract employers the applicable provisions of the emergency action plan required by paragraph (n) of this section.
- (3) **Contract employer responsibilities.**
- (i) The contract employer shall assure that each contract employee is trained in the work practices necessary to safely perform his/her job.
 - (ii) The contract employer shall assure that each contract employee is

instructed in the known potential fire, explosion or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan.

- (iii) The contract employer shall document each contract employee has received and understood the training required by this paragraph. The contract employer shall prepare a record which contains the identity of the contract employee, the date of training and the means used to verify that the employee understood the training.

R.9102(i) Pre-startup of safety review.

- (1) The employer shall perform a pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.
- (2) The pre-startup safety review shall confirm that prior to the introduction of highly hazardous chemicals to a process:
 - (iv) Training of each employee involved in operating a process has been completed.

R.9102(j) Mechanical integrity.

- (3) Training for process maintenance activities. The employer shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of the process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.

R.9102(i) Management of change.

- (3) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

R.9102(o) Compliance audits.

- (2) The compliance audit shall be conducted by at least one person knowledgeable in the process.

PART 92/PART 430, HAZARD COMMUNICATION

(Federal Standard 1910.1200)

(a) Purpose

- (1)** The purpose of this section is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.
- (2)** This occupational safety and health standard is intended to address comprehensively the issue of evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, and to preempt any legal requirements of a state, or political subdivision of a state, pertaining to this subject. Evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, may include, for example, but is limited to, provisions for: developing and maintaining a written hazard communication program for the workplace, including lists of hazardous chemicals present; labeling of containers of chemicals in the workplace, as well as of containers of chemicals being shipped to other workplaces; preparation and distribution of material safety data sheets to employees and downstream employers; and development and implementation of employee training programs regarding hazards of chemicals and protective measures. Under section 18 of the Act, no state or political subdivision of a state may adopt or enforce, through any court or agency any requirement relating to the issue addressed by this Federal standard, except pursuant to a Federally approved state plan.

(b) Scope and application

- (1)** This section requires chemical manufacturers or importers to assess the hazards of chemicals which they produce or import, and all employers to provide information to their employees about the hazardous chemicals to which they are exposed, by means of a hazard communication program, labels and other forms of warning, material safety data sheets, and information and training. In addition, this section requires distributors to transmit the required information to employers. (Employers who do not produce or import chemicals need only focus on those parts of this rule that deal with establishing a workplace program and communicating information to their workers. Appendix E of this

section is a general guide for such employers to help them determine their compliance obligations under the rule.)

- (3) (iii) Employers shall ensure that laboratory employees are provided information and training in accordance with paragraph (h) of this section, except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section; and,
- (4) (iii) Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container.

(h) Employee information and training

- (1) Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and material safety data sheets.
- (2) Information. Employees shall be informed of:
 - (i) The requirements of this section;
 - (ii) Any operations in their work area where hazardous chemicals are present; and,
 - (iii) the location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and material safety data sheets required by this section.
- (3) Training. Employee training shall include at least:
 - (i) Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
 - (ii) The physical and health hazards of the chemicals in the work area;
 - (iii) The measures employees can take to protect themselves from these hazards, including specific procedures the

employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures and personal protective equipment to be used; and,

- (iv) The details of the hazard communication program developed by the employer, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

PART 302, VINYL CHLORIDE

R.30210 (1) Each employee engaged in vinyl chloride or polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use.

R.30210 (2) The program shall include:

- (a) The nature of the health hazard from chronic exposure to vinyl chloride including specifically the carcinogenic hazard;
- (b) The specific nature of operations which could result in exposure to vinyl chloride in excess of the permissible limit and necessary protective steps;
- (c) The purpose for, proper use, and limitations of respiratory protective devices;
- (d) The fire hazard and acute toxicity of vinyl chloride, and the necessary protective steps;
- (e) The purpose for and a description of the monitoring program;
- (f) The purpose for, and a description of, the medical surveillance program;
- (g) Emergency procedures;
- (h) Specific information to aid the employee in recognition of conditions which may result in the release of vinyl chloride; and
- (i) A review of this standard at the employees first training and indoctrination program, and annually thereafter.

PART 350, CARCINOGENS (replaces OH Part 351/Rule 2302)

R325.35009 (1) An employer shall ensure that each authorized employee, before entering a regulated area and annually, receives training that includes, but is not limited to, all of the following:

- (a) The nature of the carcinogenic hazards of a carcinogen to include local and systemic toxicity.
- (b) The specific nature of the operation involving a carcinogen that could result in exposure.

- (c) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination.
 - (d) The purpose for and application of decontamination practices and purposes.
 - (e) The purpose for and significance of emergency practices and procedures.
 - (f) The employee's specific role in emergency procedures.
 - (g) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of a carcinogen.
 - (h) The purpose for and application of specific first aid procedures and practices.
- (2) An employer shall ensure that specific emergency procedures are prescribed, and posted and that employees are familiarized with emergency procedures terminology, and that the procedures are rehearsed.

PART 380, OCCUPATIONAL NOISE EXPOSURE

- R.38021** (4) The employer shall provide training in the use and care of all hearing protectors provided to employees.
- R.38023** (1) The employer shall institute a training program for all employees who are exposed to noise at or above an 8-hour time-weighted average of 85 decibels, and shall ensure employee participation in such program.
- (2) The training program shall be repeated annually for each employee included in the hearing conservation program. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.
- (3) The employer shall ensure that each employee is informed of the following:
- (a) The effects of noise on hearing;
 - (b) The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and
 - (c) The purpose of audiometric testing, and an explanation of the test procedures.

Part 381, IONIZING RADIATION

- R.2410** (9) (b) All individuals working in or frequenting any portion of a radiation area shall be informed of the occurrence of radioactive materials or of radiation in such portions of the radiation area; shall be instructed in the safety problems associated with exposure to such materials or radiation and in precautions or devices to minimize exposure; shall be

instructed in the applicable provisions of this rule for the protection of employees from exposure to radiation or radioactive materials; and shall be advised of reports of radiation exposure which employees must request pursuant to the regulations in this rule.

PART 451, RESPIRATORY PROTECTION

R.4512 (k) Training and Information. This paragraph requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. This paragraph also requires the employer to provide the basic information on respirators in Appendix D of this section to employees who wear respirators when not required by this section or by the employer to do so.

- (1) The employer shall ensure that each employee can demonstrate knowledge of at least the following:
 - (i) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
 - (ii) What the limitations and capabilities of the respirator are;
 - (iii) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
 - (iv) How to inspect, put on and remove, use, and check the seals of the respirator;
 - (v) What the procedures are for maintenance and storage of the respirator;
 - (vi) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
 - (vii) The general requirements of this section.
- (2) The training shall be conducted in a manner that is understandable to the employee.
- (3) The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.
- (4) An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in paragraph (k)(1)(i) through (vii) is not required to repeat such training provided that, as required by paragraph (k)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.
- (5) Retraining shall be administered annually, and when the following situations occur:

- (i) Changes in the workplace or the type of respirator render previous training obsolete;
 - (ii) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
 - (iii) Any other situation arises in which retraining appears necessary to ensure safe respirator use.
- (6) The basic advisory information on respirators, as presented in Appendix D of this section, shall be provided by the employer in any written or oral format, to employees who wear respirators when such use is not required by this section or by the employer.

PART 472, MEDICAL SERVICES AND FIRST AID

- Rule 4401**
- (1) The employer shall ensure the ready availability of medical personnel for advice and consultation on matters of plant health.
 - (2) In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. First-aid supplies as approved by the consulting physician shall be readily available.

PART 311, 1,3 BUTADIENE

- (l) Communication of D hazards to employees
 - (1) Hazard communication. The employer shall communicate the hazards associated with BD exposure in accordance with the requirements of the Hazard Communication Standard, 29 CFR 1910.1200,
 - (2) Employee information and training.
 - (i) The employer shall provide all employees exposed to BD with information and training in accordance with the requirements of the Hazard Communication Standard, 29 CFR 1910.1200, 29 CFR 1915.1200, and 29 CFR 1926.59.
 - (ii) The employer shall institute a training program for all employees who are potentially exposed to BD at or above the action level or the STEL, ensure employee participation in the program and maintain a record of the contents of such program.
 - (iii) Training shall be provided prior to or at the time of initial assignment to a job potentially involving exposure to BD at or above the action level or STEL and at least annually thereafter.
 - (iv) The training program shall be conducted in a manner that the

employee is able to understand. The employee shall ensure that each employee exposed to BD over the action level or STEL is informed of the following:

- (A) The health hazards associated with BD exposure, and the purpose and a description of the medical screening and surveillance program required by this section;
 - (B) The quantity, location, manner of use, release, and storage of BD and the specific operations that could result in exposure to BD, especially exposures above the PEL or STEL;
 - (C) The engineering controls and work practices associated with the employee's job assignment, and emergency procedures and personal protective equipment;
 - (D) The measures employees can take to protect themselves from exposure to BD.
 - (E) The contents of this standard and its appendices, and
 - (F) The right of each employee exposed to BD at or above the action level or STEL to obtain:
 - (1) medical examinations as required by paragraph (j) of this section at no cost to the employee;
 - (2) the employee's medical records required to be maintained by paragraph (m) (4) of this section; and
 - (3) all air monitoring results representing the employee's exposure to BD and required to be kept by paragraph (m)(2) of this section.
- (3) Access to information and training materials.
- (i) The employer shall make a copy of this standard and its appendices readily available without cost to all affected employees and their designated representatives and shall provide a copy if requested.
 - (ii) The employer shall provide to the Assistant Secretary or the Director, or the designated employee representatives, upon request, all materials relating to the employee information and the training program.

PART 303, 4,4' METHYLENEDIANILINE

R.325.50064 (3) All of the following provisions pertain to employee information and training:

- (a) An employer shall provide employees with information and training on MDA in accordance with the provisions of paragraph (h) of the hazard communication standard at the time of their initial assignment of work that will involve exposure to MDA and at least annually thereafter.

- (b) An employer shall inform employees of all of the following:
 - (i) An explanation of the contents of these rules, including appendices A and B, and inform employees where a copy of these rules is available for inspection.
 - (ii) The medical surveillance program that is required by the provision of R.325.50066 to R.325.50069 and explanation of the information contained in appendix C.
 - (iii) The medical removal provision required by the provisions of R.325.50070 and R.325.50071.
- (c) An employer shall make all written materials that relate to the employee training program, including a copy of these rules and appendices, readily available to all affected employees, without cost.
- (d) An employer shall provide to the director, upon request, all of the information and training materials that relate to the employee information and training program required by the provisions of this subrule.

PART 314, COKE OVEN EMISSIONS

- R.325.50128** (1) An employer shall institute a training program for employees who are employed in a regulated area and shall assure their participation.
- (2) The training program shall be provided as of the effective date of these rules for employees who are employed in the regulated area at that time or at the time of initial assignment to a regulated area.
 - (3) The training program shall be provided at least annually for all employees who are employed in the regulated area, except that training regarding the occupational safety and health hazards associated with exposure to coke oven emissions and the purpose, proper use, and limitations of respiratory protective devices shall be provided at least quarterly for the first year after the initiation of the training program.
 - (4) The training program shall include informing each employee of all of the following:
 - (a) The information contained in the substance information sheet for coke oven emissions.
 - (b) The purpose, proper use, and limitations of respiratory protective devices required in accordance with rules 117 to 119.
 - (c) The purpose for and a description of the medical surveillance program required by rules 123 to 127 including information on the occupational safety and health hazards associated with exposure to coke oven emissions;
 - (d) A review of all written procedures and schedules required under rules 106 to 116 of this section; and

(e) A review of these rules.

- R.325.50129** (1) An employer shall make a copy of these rules, the substance information sheet, and the air monitoring and medial surveillance guide for coke oven emissions readily available to all persons employed in the regulated area.
- (2) An employer shall provide, upon request, all materials relating to the employee information and training program to the director.

PART 504, DIVING OPERATIONS

- R.325.50309** (1) Each dive team member shall have the experience or training necessary to perform assigned tasks in a safe and healthful manner. Each dive team member shall have experience or training in the following:
- (a) The use of tools, equipment, and systems relevant to assigned tasks;
 - (b) Techniques of the assigned diving mode; and
 - (c) Diving operations and emergency procedures.
 - (d) Familiarity with the contents of the safe practices manual required by Rule 317.
- (2) All dive team members shall be trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent).
- (3) Dive team members who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in diving-related physics and physiology.
- R.325.50310** (2) The designated person-in-charge shall have experience and training in the conduct of the assigned diving operation.
- (3) Each dive team member shall be assigned tasks in accordance with the employee's experience or training, except that limited additional tasks may be assigned to an employee undergoing training provided that these tasks are performed under the direct supervision of an experienced dive team member.

PART 304, ETHYLENE OXIDE

- R.325.51170** (1) An employer who has a workplace in which there is a potential exposure to airborne EtO at or above the action level or above the STEL shall provide employees with information and training on EtO at the time of initial assignment and at least annually for each employee.
- (2) An employer shall ensure that each employee is informed all of all the following:

- (a) The location, availability, and contents of these rules and appendices A and B to these rules.
 - (b) The specific nature of any operations in the employee ' s work area where EtO is present.
 - (c) The purpose and description of the medical surveillance program required in R325.51165 to R325.51168 and an explanation of the information in appendix C to these rules.
- (3) An employer shall institute a training program that shall include all of the following areas:
- (a) Methods and observations that may be used to detect the presence or release of EtO in the work area.
 - (b) The physical and health hazards of EtO.
 - (c) The engineering controls, work practices, personal protective equipment, and emergency procedures used to protect employees.
 - (d) The details of the hazard communication program developed by the employer, including an explanation of the labeling system and how employees can obtain and use appropriate hazard information.

PART 305, ASBESTOS

- R.1910.1001** (7)
- (i) The employer shall institute a training program for all employees who are exposed to airborne concentrations of asbestos at or above the action level and/or excursion limit to ensure their participation in the program.
 - (ii) Training shall be provided prior to or at the time of initial assignment and at least annually thereafter.
 - (iii) The training program shall be conducted in a manner which the employee is able to understand. The employer shall ensure that each employee is informed of the following:
 - (A) The health effects associated with asbestos exposure;
 - (B) The relationship between smoking and exposure
 - (C) The quantity, location, manner of use, release, and specific nature of operations which could result in exposure to asbestos;
 - (D) The engineering controls and work practices associated with the employees job assignment;
 - (E) The specific procedures implemented to protect employees from exposure to asbestos, such as appropriate work practices, emergency and clean-up procedures, and personal protective equipment to be used;
 - (F) The purpose, proper use, and limitations of respirators and

- protective clothing;
- (G) The purpose and a description of the medical surveillance program required by paragraph (1) of this section;
- (H) The content of this standard, including appendices.
- (I) The names, addresses and phone numbers of public health organizations which provide information, materials, and/or conduct programs concerning smoking cessation. The employer may distribute the list of such organizations contained in Appendix 1 to this section, to comply with this requirement.
- (J) The requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels.

PART 306, FORMALDEHYDE

- R.325.51473** (1) An employer shall ensure that all employees who are assigned to workplaces where there is exposure to formaldehyde at or above 0.1 ppm participate in a training program.
- (2) An employer shall provide employees with information and training on formaldehyde at the time of their initial assignment and when a new exposure to formaldehyde is introduced into their work areas. Employers shall provide such information and training at least annually.
- (3) The training program shall be conducted in a manner that an employee is able to understand and shall include all of the following:
- (a) A discussion of the contents of these rules and the contents of the material safety data sheet.
 - (b) An explanation of the purpose for, and a description of, the medical surveillance program required by these rules, including both of the following:
 - (i) A description of the potential health hazards associated with exposure to formaldehyde and a description of the signs and symptoms of exposure to formaldehyde.
 - (ii) Instructions to immediately report to the employer the development of any adverse signs or symptoms that the employee suspects is attributable to formaldehyde exposure.
 - (c) A description of operations in the work area where formaldehyde is present and an explanation of the safe work practice appropriate for limiting exposure to formaldehyde in each job.
 - (d) An explanation of the purpose for and proper use and limitations of, personal protective clothing and equipment.
 - (e) Instructions for the handling of spills, emergencies, and clean-up procedures.

- (f) An explanation of the importance of engineering and work practice controls for employee protection and any necessary instruction in the use of these controls.
 - (g) A review of emergency procedures, including the specific duties or assignments of each employee in an emergency.
- (4) An employer shall inform all affected employees of the location of written training materials and shall make these materials readily available, without cost, to the affected employees. The employer shall provide, to the director, upon request, all training materials relating to the employee training program.

PART 307, ACRYLONITRILE (VINYL CYANIDE)

- R.325.51519** (1) An employer shall institute a training program for and assure the participation of all employees exposed to AN above the action level, all employees whose exposures are maintained below the action level by engineering and work practice controls, and all employees subject to potential skin or eye contact with liquid AN.
- (2) Training shall be provided at the time of initial assignment, or upon institution of the training program, and at least annually thereafter.
- (3) The employer shall assure that each employee is informed all of the following:
- (a) The information contained in appendices A and B of these rules appendices A and B are available from the department of public health.
 - (b) The quantity, location, manner of use, release, or storage of AN, and the specific nature of operations which could result in exposure to AN, as well as any necessary protective steps;
 - (c) The purpose, proper use, and limitations of respirators and protective clothing;
 - (d) The purpose and a description of the medical surveillance program required by paragraph (n) of this section;
 - (e) The emergency procedures developed, as required by Rule 10.
 - (f) Engineering and work practice controls, their function, and the employee's relationship to these controls: and
 - (g) A review of these rules.
- (4) An employer shall make a copy of these rules and appendices readily available to all affected employees.
- (5) Upon request, an employer shall provide all materials relating to the employee information and training program to the director.

PART 308, INORGANIC ARSENIC

- R.325.51622** (1) An employer shall institute a training program for all employees who are subject to exposure to inorganic arsenic above the action level, without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic arsenic. An employer shall assure that these employees participate in the training program.
- (2) The training program shall be provided at the time of initial assignment for employees specified in subrule (1) of this rule and at least annually thereafter.
- (3) An employer shall assure that each employee is informed of all of the following:
- (a) The information contained in appendix A to these rules.
 - (b) The quantity, location, and manner of use or storage of arsenic materials, sources of exposure, and the specific nature of operation that could result in exposure to inorganic arsenic, as well as any necessary protective steps.
 - (c) The purpose, proper use, and limitation of respirators.
 - (d) The purpose and a description of the medical surveillance program as required by R. 325.51617 to R.325.51621.
 - (e) The engineering controls and work practices that are associated with the employee ' s job assignment.
 - (f) These rules, which the employer shall review.
- (4) An employer shall make a copy of these rules and their appendices readily available to all affected employees.
- (5) Upon request, an employer shall provide, to the director, all materials that relate to the employee information and training program.

PART 313, METHYLENE CHLORIDE

- R325.51651** (l) Employee information and training.
- (1) The employer shall provide information and training for each affected employee prior to or at the time of initial assignment to a job involving potential exposure to MC.
- (2) The employer shall ensure that information and training is presented in a manner that is understandable to the employees.
- (3) In addition to the information required under the Hazard Communication Standard at 29 CFR 1910.1200, 29 CFR 1915.1200, or 29 CFR 1926.59, as appropriate:
- (i) The employer shall inform each affected employee of the

requirements of this section and information available in its appendices, as well as how to access or obtain a copy of it in the workplace;

- (ii) Wherever an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed the action level, the employer shall inform each affected employee of the quantity, location, manner of use, release, and storage of MC and the specific operations in the workplace that could result in exposure to MC, particularly noting where exposures may be above the 8-hour TWA PEL or STEL;
- (4) The employer shall train each affected employee as required under the Hazard Communication standard at 29 CFR 1910.1200, 29 CFR 1915.1200, or 29 CFR 1926.59, as appropriate.
- (5) The employer shall re-train each affected employee as necessary to ensure that each employee exposed above the action level or the STEL maintains the requisite understanding of the principles of safe use and handling of MC in the workplace.
- (6) Whenever there are workplace changes, such as modifications of tasks or procedures or the institution of new tasks or procedures, which increase employee exposure, and where those exposures exceed or can reasonably be expected to exceed the action level, the employer shall update the training as necessary to ensure that each affected employee has the requisite proficiency.
- (7) An employer whose employees are exposed to MC at a multi-employer worksite shall notify the other employers with work operations at that site in accordance with the requirements of the Hazard Communication Standard, 29 CFR 1910.1200, 29 CFR 1915.1200, or 29 CFR 1926.59, as appropriate.
- (8) The employer shall provide to the Assistant Secretary or the Director, upon request, all available materials relating to employee information and training.

PART 309, CADMIUM

R.325.51880`

- (1) An employer shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of the program. Employee training shall be provided before or at the time of initial assignment to a job involving potential exposure to cadmium and at least

annually thereafter.

- (2) An employer shall make the training program understandable to the employee and shall ensure that each employee is informed of all of the following:
 - (a) The health hazards associated with cadmium exposure, with special attention to the type of information provided in appendix A.
 - (b) The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL.
 - (c) The engineering controls and work practices associated with the employee's job assignment;
 - (d) The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, habits and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;
 - (e) The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;
 - (f) The purpose and a description of the medical surveillance program required pursuant to the provisions of R 325.51868 to R 325.51878;
 - (g) The contents of these rules and the appendices to these rules;
 - (h) The employee's right of access to records as provided by the provisions of R 325.3460 to R 325.3471 and R.325.3473.
- (3) An employer shall make a copy of these rules and the appendices to these rules readily available without cost to all affected employees and shall provide a copy if requested. Also, an employer shall provide to the director, upon request, all materials relating to the employee information and training program.
- (4) This subrule applies only to the construction industry. In a multiemployer workplace, an employer who produces, uses, or stores cadmium in a manner that may expose employees of other employers to cadmium shall notify the other employers of the potential hazards in accordance with the provisions of 29 CFR 1926.59(4)(2)(i)-(iii), which is referenced in R 325.51879(1).

PART 310, LEAD

- R 325.51949 (1)** An employer who has a workplace in which there is a potential exposure

to airborne lead at any level shall inform employees of the contents of Appendices A and B to these rules.

- (2) An employer shall institute a training program for, and assure participation be, all employees who are subject to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists from exposure to lead.
- (3) An employer shall provide initial training in accordance with both of the following:
 - (a) Within 180 days from the effective date of these rules for employees subject to subrule (2) of this rule.
 - (b) Prior to the time of initial job assignment, for new employees subsequently covered by subrule (2) of this rule.
 - (4) The training program shall be repeated at least annually for each employee.
 - (5) An employer shall assure that each employee is informed of all of the following:
 - (a) The contents of these rules and appendices.
 - (b) The specific nature of the operations which could result in exposure to lead above the action level.
 - (c) The purpose, proper selection, fitting, use and limitations of respirators.
 - (d) The purpose and a description of the medical surveillance program and the medical removal protection program, including information regarding adverse health effects associated with excessive exposures to lead, with particular attention to the adverse reproductive effects on both males and females.
 - (e) The engineering controls and work practices associated with the employee ' s job assignment.
 - (f) The contents of any compliance plan in effect.
 - (g) Instructions to employees that chelating agents shall not routinely be used to remove lead from their bodies and shall not be used at all except under the direction of a licensed physician.

R.325.51950 (1) An employer shall make a copy of these rules and their appendices readily available to all affected employees.

(2) Upon request, and employer shall provide to the director all materials relating to the employee information and training

program.

- (3) In addition to the information required by R 325.51949(5), an employer shall include as part of the training program, and shall distribute to employees, all materials pertaining to the act and the rules promulgated there under which are provided to the employer by the department.

PART 432, HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

R 325.52109 (1) All employees, supervisors, and management personnel who work at a hazardous waste site where cleanup operations are underway shall be trained and have supervised on-the-job field experience as required by this rule, R 325.52110, and R 325.52111 before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances or safety or health hazards. All personnel shall also receive refresher training as required pursuant to the provisions of R 325.52112.

- (2) Employees and supervisors shall not be permitted to participate in or supervise field activities until they have been trained at the level required by their job function and responsibilities.

- (3) Training shall cover all of the following:

- (a) The names of personnel and alternates who are responsible for site safety and health.
- (b) Safety, health, and other hazards present on the site.
- (c) Use of personal protective equipment.
- (d) Work practices which will minimize the risks of hazards.
- (e) The safe use of engineering controls and equipment on the site.
- (f) Medical surveillance requirements, including the recognition of symptoms and signs which might indicate overexposure to hazards.
- (g) The contents of the site-specific safety and health plan required pursuant to the provisions of R 325.52104(6)(h) to (k).

R.325.52110 (1) General site workers and supervisory personnel who are assigned to tasks that involve exposure or potential exposure to hazardous substances, health hazards, or safety hazards shall receive the training specified in both of the following provisions:

- (a) Forty hours of training conducted away from the hazardous waste site.
 - (b) Three days of field experience under the direct supervision of a trained and experienced supervisor.
- (2) Workers who are on a site only occasionally for a specific and limited task and who are unlikely to be exposed above permissible and published exposure limits shall receive the training specified in both of the following provisions:
 - (a) Twenty-four hours of off-site training.
 - (b) One day of field experience under the direct supervision of a trained and experienced supervisor.
- (3) Regular site workers who work in areas which have been monitored and fully characterized as indicating that exposures are below permissible exposure limits and published exposure levels, in areas where respirators are not required, or in areas where the site characterization indicates that health hazards do not exist or that the possibility of an emergency developing does not exist shall receive the training specified in both of the following provisions:
 - (a) Twenty-four hours of off-site training.
 - (b) One day of field experience under the direct supervision of a trained and experienced supervisor.
- (4) Workers who have received 24 hours of training, who are covered by the provisions of subrules (2) and (3) of this rule, and who become general site workers or who are required to wear respirators shall receive an additional 16 hours of training and 2 days of supervised field experience to equal the requirements of subrule (1) of this rule.
- (5) Management and supervisory personnel who work on-site shall receive the same amount of training and supervised field experience as their subordinates as specified in subrules (1), (2), and (3) of this rule, plus, at the time of job assignment, not less than 8 additional hours of specialized training on appropriate topics, such as the following:
 - (a) Employer's safety and health program.
 - (b) Employee training programs.
 - (c) Personal protective equipment program.
 - (d) Spill containment.
 - (e) Health hazard monitoring procedures and techniques.

R.325.52111 (1) Trainers shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they teach or shall possess the academic credentials and instructional experience necessary for competent instructional skills and knowledge of the applicable subject matter.

(2) Employees and supervisors who have received and successfully completed the training and field experience specified in R 325.52109 and R 325.52110 shall be certified by their instructors or training supervisors as having successfully completed the necessary training. A written certificate shall be given to each person who is certified. Any person who has not been certified or who does not meet the requirements of R 325.52112 (2) shall be prohibited from engaging in hazardous waste operations.

R.325.52112 (1) All employees are required to be trained pursuant to the provisions of R.325.52109(1) shall also receive 8 hours of refresher training annually on the topics specified in R 325.52109(3) and R 325.52110(5). Refresher training also shall include a critique of the past year ' s incidents that can serve as training examples for future work situations.

(2) An employer who can show, by documentation or certification, that an employees work experience or training has resulted in training equivalent to the training required by the provisions of R 325.52109 and R 325.52110 shall not be required to provide the initial training requirements specified in R 325.52110 to such employee. However, certified employees or employees with equivalent training who are new to a site shall receive appropriate, sit specific training before site entry and have appropriate supervised field experience at the new site. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience.

R.325.52133 (1) Employees who participate or are expected to participate in emergency response shall be trained in accordance with the requirements of this rule. Training shall be based on the duties and functions to be performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of these release, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident.

(2) First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the

proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in all of the following areas:

- (a) Understanding what hazardous substances are and the risks associated with them in an incident.
 - (b) Understanding the potential outcomes associated with an emergency created when hazardous substances are present.
 - (c) The ability to recognize the presence of hazardous substances in an emergency.
 - (d) The ability to identify the hazardous substances in an emergency, if possible.
 - (e) Understanding the role of the first responder awareness individual as specified in the employer's emergency response plan, including site security and control, and as specified in the United States department of transportation's emergency response guidebook.
 - (f) The ability to realize the need for additional resources and to make appropriate notifications to the communication center.
- (3) First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. These individuals are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received not less than 8 hours of training or have had sufficient experience to objectively demonstrate competency in all of the following areas in addition to those listed for the awareness level in subrule (2) of this rule:
- (a) Knowledge of the basic hazard and risk assessment techniques.
 - (b) Knowing how to select and use proper personal protective equipment provided to the first responder operational level.
 - (c) Understanding basic hazardous materials terms.
 - (d) Knowing how to perform basic control, containment, and confinement operations within the capabilities of the resources and personal protective equipment available to their unit.
 - (e) Knowing how to implement basic decontamination procedures.
 - (f) Understanding the relevant standard operating procedures and termination procedure.
The employer shall certify demonstrated competency in the areas specified in this subrule.

- (4) Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch, or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received not less than 24 hours of training equal to the first responder operations level of subrule (3) of this rule and, in addition, be competent in all of the following areas:
- (a) Knowing how to implement the employer's emergency response plan.
 - (b) Knowing the classification, identification, and verification of known and unknown materials by using field survey instruments and equipment.
 - (c) Being able to function within an assigned role in the incident command system.
 - (d) Knowing how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.
 - (e) Understanding hazard and risk assessment techniques.
 - (f) Being able to perform advance control, containment, and confinement operations within the capabilities of the resources and personal protective equipment available to the unit.
 - (g) Understanding and implementing decontamination procedures.
 - (h) Understanding termination procedures.
 - (i) Understanding basic chemical and toxicological terminology. The employer shall certify competency in the areas specified in this subrule.
- (5) Hazardous materials specialists are individuals who respond with, and provide support to, hazardous materials technicians. Their duties parallel those of the hazardous materials technician; however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialists shall have received not less than 24 hours of training equal to the technician level of subrule (4) of this rule and, in addition, be competent in all of the following areas:
- (a) Knowing how to implement the local emergency response plan.
 - (b) Understanding the classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.
 - (c) Being aware of the state emergency response plan.
 - (d) Being able to select and use proper specialized chemical personal

protective equipment provided to the hazardous materials specialist.

- (e) Understanding in-depth hazard and risk techniques.
 - (f) Being able to perform specialized control, containment, and confinement operations within the capabilities of the resources and personal protective equipment available.
 - (g) Being able to determine and implement decontamination procedures.
 - (h) Having the ability to develop a site safety and control plan.
 - (i) Understanding chemical, radiological, and toxicological terminology and behavior.
- (6) On scene incident commanders who will assume control of the incident scene beyond the first responder awareness level shall receive not less than 24 hours of training equal to the first responder operations level of subrule (3) of this rule and, in addition be competent in all of the following areas:
- (a) Knowing and being able to implement the employer's incident command system.
 - (b) Knowing how to implement the employer's emergency response plan.
 - (c) Knowing and understanding the hazards and risks associated with employees who work in chemical protective clothing.
 - (d) Knowing how to implement the local emergency response plan.
 - (e) Being aware of the state emergency response plan and the federal regional response team.
 - (f) Knowing and understanding the importance of decontamination procedures. An employer shall certify competency in the areas specified in this subrule.
- (7) Trainers who teach any of the training subjects specified in subrules (1) to(6) of this rule shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the United States national fire academy, or they shall have the training or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a satisfactory command of the subject matter of the courses they are to teach.
- (8) Both of the following provisions pertain to refresher training:
- (a) Those employees who are trained in accordance with the provisions of this rule shall receive annual refresher training of sufficient content and duration to remain competent with respect to

their duties and functions or shall demonstrate competency in those areas at least yearly.

- (b) A statement shall be made of the training or competency and, if a statement of competency is made, an employer shall keep a record of the methodology used to demonstrate competency.

PART 554, BLOODBORNE INFECTIOUS DISEASES

R.325.70016 (1) An employer shall ensure that all category A employees participate in a training program provided at no cost to the employees and during working hours.

- (2) Training shall be provided at the time of initial assignment to category A work or within 90 days after the effective date of these rules, whichever is later, and at least annually thereafter. If an employee has received training on bloodborne pathogens in the year preceding the effective date of these rules, only training with respect to requirements of this rule that were not included in the previous training need to be provided.
- (3) An employer shall provide additional training when changes, such as the modification of tasks or procedures of the institution of new tasks or procedures, affect an employee's occupational exposure. The additional training may be limited to addressing the new exposures created.
- (4) Material appropriate in content and vocabulary on the educational level, literacy, and language background of employees shall be used.
- (5) The training program shall contain all of the following elements:
 - (a) Accessibility of the copy of these rules and an explanation of the contents of these rules, including appendices.
 - (b) A general explanation of the epidemiology and symptoms of bloodborne diseases.
 - (c) An explanation of the modes of transmission of bloodborne pathogens.
 - (d) An explanation of the employer's exposure control plan, including the standard operating procedures, and how an employee can access the written plan.
 - (e) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious material.
 - (f) An explanation of the use and limitations of practices that will prevent or reduce exposure, including appropriate engineering controls, work practices, and personal protective equipment.
 - (g) Information on all of the following with respect of personal

protective clothing and equipment:

- (i) Types.
 - (ii) Proper use.
 - (iii) Limitations.
 - (iv) Location.
 - (v) Removal.
 - (vi) Handling.
 - (vii) Decontamination.
 - (viii) Disposal.
- (h) An explanation of the basis for selecting protective clothing and equipment.
- (i) Information on the hepatitis B vaccine and post exposure prophylaxis, including all of the following information:
- (i) Availability.
 - (ii) Efficacy.
 - (iii) Safety.
 - (iv) The benefits of being vaccinated.
 - (v) Method of administration.
 - (vi) That vaccination is free of charge.
- (j) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious material.
- (k) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident, and the medical follow-up and counseling that will be made available.
- (l) An explanation of the signs and labels or color coding required by the provisions of R 325.70014.
- (6) Employees in HIV or HBV research laboratories and HIV/HBV production facilities shall receive the following initial training in addition to the training requirements specified in subrule (5) of this rule:
- (a) Employees shall be trained in and demonstrate proficiency in, standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV and HBV.
 - (b) Employees shall be experienced in the handling of human pathogens or tissue cultures before working with HIV and HBV.
 - (c) A training program shall be provided to employees who have not

had experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. An employee shall participate in work activities that involve infectious agents only after proficiency has been demonstrated.

- (7) Training shall be conducted in the following manner:
 - (a) All employees in category A positions shall receive initial training and annual retraining.
 - (b) Training sessions shall afford employees ample opportunity for discussion and the answering of questions by a knowledgeable trainer.
 - (c) 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.
 - (d) The person or persons who conduct training shall be knowledgeable in all of the following areas:
 - (i) The information presented in the training session.
 - (ii) The employer's exposure control plan.
 - (iii) Conditions of the work environment that affect the implementation of the exposure control plan.
 - (e) An employer shall maintain written documentation of attendance at training.
 - (f) An employer may reduce the training specified in subrule (5) of this rule to allow for the previous training of an employment or another academic source. In such cases, the previous training shall be evaluated and documented. At a minimum, an employer shall provide an employee with workplace-specific training that covers the exposure control plan and SOPs.

PART 431, HAZARDOUS WORK IN LABORATORIES

- R 325.70107** (1) An employer shall provide employees with information and training to ensure that they are apprised of and understand the hazards of chemicals present in their work areas.
- (2) Such information shall be provided at the time of an employee's initial assignments to a work area where hazardous chemicals are present and before assignments that involve new exposure situations. Refresher

information and training shall be provided by the employer to ensure that an employee is aware of the risks of exposure to hazardous chemicals.

- (3) Employees shall be informed of all of the following:
 - (a) The contents of these rules and appendices, which shall be made available to employees.
 - (b) The location and availability of the employer's chemical hygiene plan.
 - (c) The permissible exposure limits for MIOSHA-regulated substances or the recommended exposure limits for other hazardous chemicals if there are no applicable MIOSHA rules.
 - (d) Signs and symptoms associated with exposures to hazardous chemicals that are used in the laboratory.
 - (e) The location and availability of known reference material on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory, including material safety data sheets (MSDS) received from a chemical supplier.

- (4) Employee training shall include all of the following:
 - (a) Methods and observations that may be used to detect the presence or release of a hazardous chemical, such as monitoring conducted by the employer, continuous monitoring devices, and the visual appearance or odor of hazardous chemicals when being released.
 - (b) The physical and health hazards of chemicals in the work environment.
 - (c) The measures employees can take to protect themselves from health hazards, including specific procedures that the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

- (5) The employee shall be trained about the applicable details of the employer's written chemical hygiene plan.

PART 311. BENZENE

R.325.77110(4) An employer shall provide employees with information and training at the

time of their initial assignment to a work area where benzene is present. If exposures are above the action level, employees shall be provided with information and training at least annually thereafter. The training program shall comply with the requirements of hazard communication provisions referenced in subrule (2), and shall include specific information on benzene for each category of information included in that section. In addition to the information required, pursuant to the hazard communication provisions referenced in subrule (2) the employer shall do both of the following:

- (a) Provide employees with an explanation of the contents of this section, including appendices A and B, which are adopted by reference in R 325.77114, and indicate to them where the copies of these rules are available; and,
- (b) Describe the medical surveillance program required pursuant to the provisions of R 325.77109 and explain the information contained in Appendix C, which is adopted by reference in R 325.7714.

PART 591, PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS (Same as Part 91 – GI Safety Section)

- 1910.119** (g) (1) Initial Training
- (i) Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in paragraph (f) of this section. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee ' s job tasks.
 - (ii) In lieu of initial training for those employees already involved in operating a process on May 26, 1992, an employer may certify in writing that the employee has the required knowledge, skills, and abilities as specified in the operating procedures.
- (2) Refresher training. Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process. The employer, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

- (3) Training documentation. The employer shall ascertain that each employee involved in operating a process has received and understood the training required by this paragraph. The employer shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

- (h) (2) Employer responsibilities.
 - (i) The employer, when selecting a contractor, shall obtain and evaluate information regarding the contract employer's safety performance and programs.
 - (ii) The employer shall inform contract employers of the known potential fire, explosion or toxic release hazards related to the contractor's work and the process.
 - (iii) The contract employer shall explain to contract employers the applicable provisions of the emergency action plan required by paragraph (n) of this section.

- (3) Contract employer responsibilities.
 - (i) The contract employer shall assure that each contract employee is trained in the work practices necessary to safely perform his/her job.
 - (ii) The contract employer shall assure that each contract employee is instructed in the known potential fire, explosion or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan.
 - (iii) The contract employer shall document each contract employee has received and understood the training required by this paragraph. The contract employer shall prepare a record which contains the identity of the contract employee, the date of training and the means used to verify that the employee understood the training.

- (i) Pre-startup of safety review.
 - (1) The employer shall perform a pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.

- (2) The pre-startup safety review shall confirm that prior to the introduction of highly hazardous chemicals to a process:
 - (iv) Training of each employee involved in operating a process has been completed.
- (j) Mechanical integrity.
 - (3) Training for process maintenance activities. The employer shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of the process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.
- (i) Management of change.
 - (3) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.
- (o) Compliance audits.
 - (2) The compliance audit shall be conducted by at least one person knowledgeable in the process.

PART 430. HAZARD COMMUNICATION (Same as Part 92 – GI Safety)

1910.1200 (a) Purpose.

- (1) The purpose of this section is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.
- (2) This occupational safety and health standard is intended to address comprehensively the issue of evaluating the potential hazards of chemicals, and communicating information concerning

hazards and appropriate protective measures to employees, and to preempt any legal requirements of a state, or political subdivision of a state, pertaining to this subject. Evaluating the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, may include, for example, but is not limited to, provisions for: developing and maintaining a written hazard communication program for the workplace, including lists of hazardous chemicals present; labeling of containers of chemicals being shipped to other workplaces; preparation and distribution of material safety data sheets to employees and downstream employers; and development and implementation of employee training programs regarding hazards of chemicals and protective measures. Under section 18 of the Act, no state or political subdivision of a state may adopt or enforce, through any court or agency any requirement relating to the issue addressed by this Federal standard, except pursuant to a Federally approved state plan.

(b) Scope and application

- (1) This section requires chemical manufacturers or importers to assess the hazards of chemicals which they produce or import, and all employers to provide information to their employees about the hazardous chemicals to which they are exposed, by means of a hazard communication program, labels and other forms of warning, material safety data sheets, and information and training. In addition, this section requires distributors to transmit the required information to employers. (Employers who do not produce or import chemicals need only focus on those parts of this rule that deal with establishing a workplace program and communicating information to their workers. Appendix E of this section is a general guide for such employers to help them determine their compliance obligations under the rule.)
- (3) (iii) Employers shall ensure that laboratory employees are provided information and training in accordance with paragraph (h) of this section, except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section; and,
- (4) (iii) Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical

from a sealed container.

(h) Employee information and training

(1) Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and material safety data sheets.

(2) Information. Employees shall be informed of:

- (i) The requirements of this section;
- (ii) Any operations in their work area where hazardous chemicals are present; and,
- (iii) The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and material safety data sheets required by this section.

(3) Training. Employee training shall include at least:

- (i) Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
- (ii) The physical and health hazards of the chemicals in the work area;
- (iii) The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures and personal protective equipment to be used; and,
- (iv) The details of the hazard communication program developed by the employer, including an explanation of the labeling system and the material safety data sheet and how employees can obtain and use the appropriate hazard information.

**PART 490, PERMIT-REQUIRED CONFINED SPACES (Same as Part 90 –
GI Safety)**

- 1910.146** (d) (8) Designate the persons who are to have active roles (as for example, authorized entrants, attendants, entry supervisors or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of such employee and provide each said employee with the training required by paragraph (g) of this section.
- (g) The employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge and skills necessary for the duties assigned under this section.
- (2) Training shall be provided to each affected employee:
- (i) Before the employee is first assigned duties under this section
 - (ii) Before there is a change in assigned duties
 - (iii) Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained
 - (iv) Whenever the employer has reason to believe either that there are deviations from the permit space entry procedures required by paragraph (d)(3) of this section or that there are inadequacies in the employee's knowledge or use of these procedures.
- (3) The training shall establish employee proficiency in the duties required by this section and shall introduce new or revised procedures, as necessary, for compliance with this section.
- (4) The employer shall certify that the training required by paragraphs (g)(1) through (g)(3) of this section has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

Employees Required to be Trained Include:

- 1910.146 (h) Authorized entrants
- 1910.146 (i) Attendants
- 1910.146 (j) Entry supervisors
- 1910.146 (k) Rescue services, CPR, First Aid

PART 315. Chromium (VI) in General Industry (29 CFR 1910.1026)

- 1910.1026** (l) (1) In addition to the requirements of the Hazard Communication Standard, 29 CFR 1910.1200, employers shall comply with the following requirements.
- (i) The employer shall ensure that each employee can demonstrate knowledge of at least the following:
 - (A) The contents of this section; and
 - (B) The purpose and a description of the medical surveillance program required by paragraph (k) of this section.
 - (ii) The employer shall make a copy of this section readily available without cost to all affected employees.

PART 511. Temporary Labor Camps

- R 325.51141** (1) Adequate first aid facilities approved by a health authority shall be maintained and made available in every labor camp for the emergency treatment of injured persons.
- (2) Facilities shall be in charge of a person trained to administer first aid and shall be readily accessible for use at all times.

MIOSHA
Safety & Health
Training Requirements

for

Agricultural Operations

PART 51. AGRICULTURAL TRACTORS

1928.51 (d) Operating instructions: Every employee who operates an agricultural tractor shall be informed of the operating practices dictated by the work environment. Such information shall be provided at the time of initial assignment and at least annually thereafter.

1928.53 Exhibit A Employee Operating Instructions:

- 1) Securely fasten your seatbelt if the tractor has a ROPS.
- 2) Where possible, avoid operating the tractor near ditches, embankments and holes.
- 3) Reduce speed when turning, crossing slopes and on rough, slick or muddy surfaces.
- 4) Stay off slopes too steep for safe operation.
- 5) Watch where you are going, especially at row ends, on roads and around trees.
- 6) Do not permit others to ride.
- 7) Operate the tractor smoothly - no jerky turns, starts or stops.
- 8) Hitch only the drawbar and hitch points recommended by tractor manufacturers.
- 9) When tractor is stopped, set brakes securely and use park lock if available.

PART 53. FARM FIELD EQUIPMENT

1928.57 (a)(6) Operating instructions: At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all covered equipment with which he is or will be involved, including at least the following safe operating practices:

- (i) Keep all guards in place when the machine is in operation;
- (ii) Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation;
- (iii) Stop engine, disconnect the power source and wait for all machine movement to stop before servicing, adjusting, cleaning or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment;
- (iv) Make sure everyone is clear of machinery before starting the

- engine, engaging power or operating the machine;
 - (v) Lock out electrical power before performing maintenance or service on farmstead equipment.
- 1928.57** (d)(1)(viii) In power plants and power development rooms where access is limited to authorized personnel, guard railings may be used in place of guards or guarding by location. Authorized employees having access to power plants and power development rooms shall be instructed in the safe operation and maintenance of the equipment in accordance with paragraph (a)(6) of this section.

PART 501. AGRICULTURAL OPERATIONS (1910.267)

- 1910.267** (a) (3) Cross referenced with 1910.111 (a) and (b), Handling of Anhydrous Ammonia.
- (4) Cross referenced with General Industry Part 51. Logging.
- (5) Cross referenced with General Industry Part 37. Slow Moving Vehicles: Accident Prevention Signs and Tags.

PART 500. AGRICULTURAL FIELD SANITATION

- 1928.110** (4) Reasonable Use. The employer shall notify each employee of the location of the sanitation facilities and water and shall allow each employee reasonable opportunities during the workday to use them. The employer also shall inform each employee of the importance of each of the following good hygiene practices to minimize exposure to the hazards in the field of heat, communicable diseases, retention of urine and agricultural residues:
- (i) Use the water and facilities provided for drinking, hand washing and elimination.
 - (ii) Drink water frequently and especially on hot days;
 - (iii) Urinate as frequently as necessary;
 - (iv) Wash hands both before and after using the toilet; and
 - (iv) Wash hands before eating and smoking.



Michigan Occupational Safety & Health Administration
Consultation Education & Training Division
7150 Harris Drive, P.O. Box 30643
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services
call (517) 322-1809
or

visit our website at www.michigan.gov/miosha



www.michigan.gov/lara

LARA is an equal opportunity employer/program. Auxiliary aids, services and other reasonable accommodations are available upon request to individuals with disabilities.