



# **CORPORATE SAFETY MANUAL**

# Safety Manual



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# Safety Manual



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## **SAFETY MISSION/COMMITMENT STATEMENT**

To All Employees:

An issue of great concern to me, members of management, and most employees is the need to maintain a safe workplace. I am personally committed to creating an incident-free work environment and I expect other members of management to demonstrate that same level of commitment. Working together, all employees are expected to:

- Work safely as a condition of employment.
- Report unsafe conditions immediately to management.
- Work with their supervisor to identify and eliminate the causes of unsafe work behaviors.
- Make suggestions and recommendations to improve the safety of each and every operation or task we perform.
- Actively and enthusiastically participate in all aspects of our safety program.

Our goal is to have zero incidents. Occupational injuries hurt everyone: injured employees, their families, their work team and our organization. We will manage all Workers' Compensation claims by ensuring that the injured employee receives prompt, appropriate medical treatment. Injured employees will have transitional-duty work developed for them. They are expected to continue contributing to the work team while recovering from their injuries.

All incidents must be reported immediately so they can be properly investigated to determine where we need to improve our safety management system. When you are asked to participate in an incident analysis, please do so knowing that the purpose is to fix the system, not to place blame on individuals.

Working together on safety, we can improve the quality of our work life, products and services, and ultimately our ability to be competitive in the marketplace.

Thank you,  
CLANCY & THEYS CONSTRUCTION COMPANY

Tim Clancy  
President

## **GOALS AND OBJECTIVES**

Safety, like quality, is the result of doing things the right way. Virtually every incident is caused by an unsafe act or condition. It is Clancy & Theys' objective to achieve a year-by-year reduction in incident frequency and severity rates until they stand at zero. No correctable potential causes of incidents will be permitted to interfere with this basic objective. Furthermore, it is the responsibility of ALL employees to work toward achievement of this basic objective.

Employee safety and incident prevention are so important at Clancy & Theys that all employees will work as a team to prevent incidents and unsafe conditions. Clancy & Theys' approach to safety is based on the principal of adherence to an organized program which incorporates the fundamentals of incident prevention and yet allows room for individual initiative.

This Safety Manual is designed to provide you, an employee, with safety policies and procedures which must become part of your everyday working habits. The rules, policies and procedures outlined in this Manual do not supersede safety standards set by any regulatory agency, nor do they eliminate the need for sound safety practices beyond those outlined in this Manual.

The Manual is intended to be dynamic and the information and procedures outlined will be revised as rules and regulations are updated and Clancy & Theys' business changes. The user is encouraged to develop and share with others any personalized checklists, form letters, and management aids that will assist the safety process.

The increased number of women entering Clancy & Theys' workforce in previously male dominated positions has made it important to avoid gender stereotypes. However, the awkwardness and inelegance of "he/she", his or her", or alternating paragraphs or sections by gender, has led the author to either eliminate personal pronouns entirely or use neuter pronouns where appropriate. Where personal pronouns are stylistically unavoidable, the author has used the masculine form.

## **STATEMENT OF SAFETY POLICY**

It is the policy of Clancy & Theys Construction Company to continually strive for the highest safety and health standards on our projects. This is to advise all parties concerned that we strongly adhere to the principle that incident prevention and industrial health are just as important to this organization as quality and production. To this end, every reasonable effort will be made to provide and maintain a safe and healthy workplace, safe equipment, and proper materials.

Maintaining a safe work environment is a continuous endeavor. It requires the cooperation of all employees. The management of this company is committed to providing the proper planning, communication, supervision, and training for employees to ensure that they are able to carry out their jobs in a safe and effective manner. Safety is no incident!

Our safety rules and regulations were developed for the protection of our employees, subcontractors, suppliers, clients, and the general public. We insist on safe methods and practices at all times. Specifically we will:

- Comply with all Federal, State, and Local laws, regulations, and recognized safe practices pertaining to safety and health in the Construction Industry.
- Conduct all operations with common sense and safe practices commensurate with the varied conditions, locations, and circumstances of our jobs.
- Exercise good judgment in the application of this policy.
- Protect members of the general public under all conditions.

It is a condition of employment with our company that all employees adhere to the requirements of this Safety Program as well as comply with all pertinent safety rules, regulations, procedures, and practices relevant to their work.

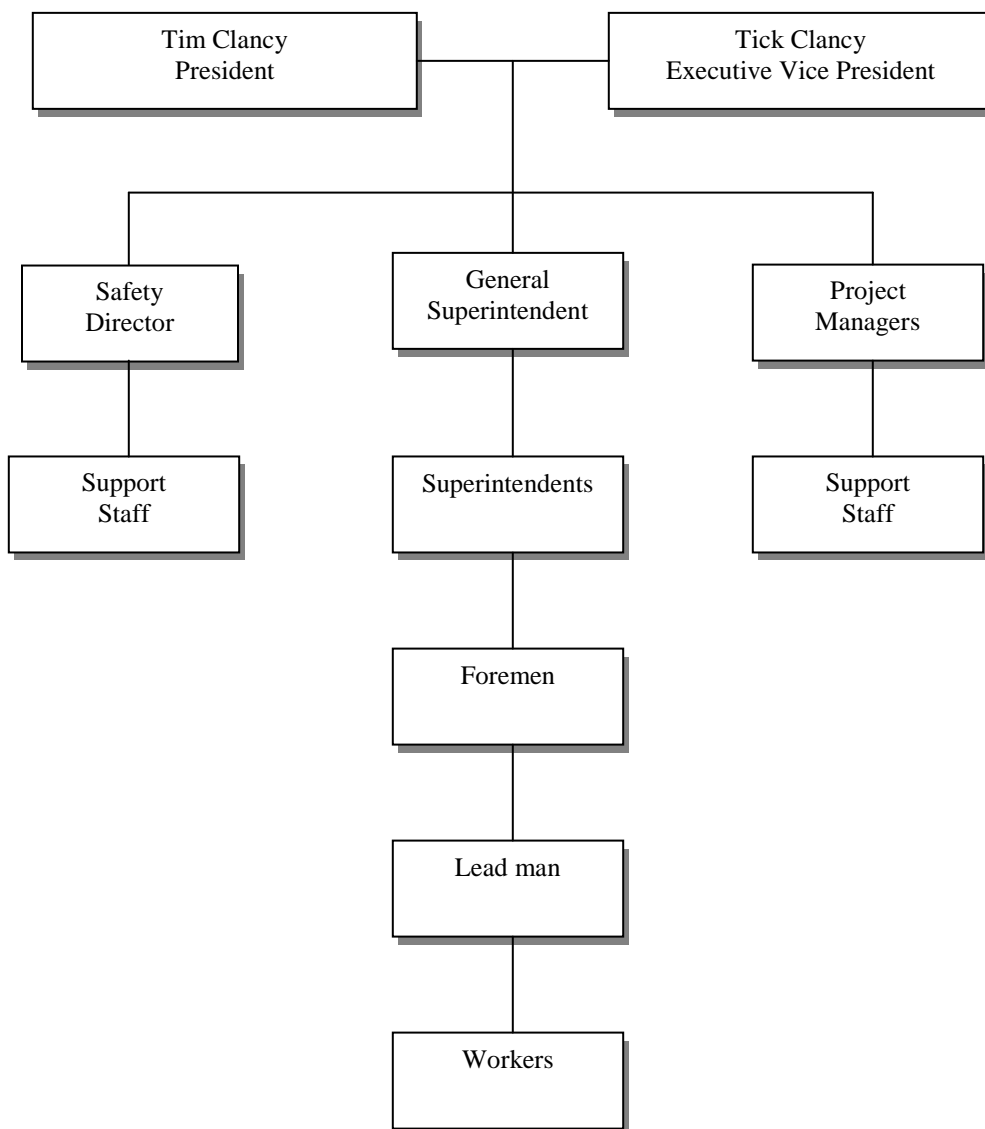
Furthermore, all subcontracts, purchase orders, and service contracts issued will contain by reference the requirements of our safety policy, rules and procedures. We will make every effort to ensure that other parties' activities pose no danger to our employees. However, all employees are required to immediately report to their supervisor any such hazardous activities or conditions.

All supervisory personnel have the full support of management to carry out the provisions of our safety policy and they are expected to do so. Employees and management will jointly participate in developing solutions for safety problems as they arise and will actively participate in the safety organization planned for each individual work site.

**“No job is so urgent that it cannot be done safely.”**



## SAFETY ORGANIZATIONAL CHART



## **SAFETY DECISION TEAM**

### **Executive Management**

**Tim Clancy, President**

**Tick Clancy, Executive Vice President**

### **Branch Managers**

**Bob Ruffner, *Wilmington, NC***

**Bill Goggins, *Newport News, VA***

**Dean Conklin, *Newport News, VA***

**Jeff Mock, Bill Zecker, *Orlando, FL***

**Robert Hall, *Charlotte, NC***

### **Safety Department**

**Lyle Gurley, Corporate Safety Director**

**Lee Maizel, Branch Safety Manager, *Newport News, VA***

**Shawn Ray, Safety Manager**



## **SAFETY RESPONSIBILITIES**

Organized accident prevention requires teamwork. This is why no single level of employment can do the job alone. A maximum effort is required at all levels of employment. It is the responsibility of every employee in the company to:

- Take personal responsibility for compliance with the safety program.
- Communicate responsibility so that everyone knows what is expected.
- Develop required knowledge and skills.
- Develop favorable motivation.
- Express enthusiasm and personal conviction with the safety program.

Safety is the functional responsibility of each Manager and Supervisor. Each Manager and Supervisor has the right to demand safe operations. In addition, it is the obligation of each Manager and Supervisor to train employees to work safely. Notwithstanding the responsibilities of Managers and Supervisors, employees at all levels of our organization are accountable for their own safe conduct.

To ensure that Clancy & Theys' safety policies and procedures are carried out, the following assignments of responsibility are made. Please note that each employee is assigned responsibility in this organization and will have the full support of management in enforcing the required standards.

### **Owners and Senior Management**

- Owners and Senior Management provide leadership for a coordinated effort that integrates the safety effort throughout all levels of the company.
- Establish and disseminate rigorous and specific safety policies and procedures for all employees and ensure they are followed.
- Direct the participation of all Supervisors at all levels in the safety effort, with specific responsibilities assigned to each.
- Ensure that each manager passes on appropriate guidance to personnel under his direction.
- Provide incentive, motivation, and full support for the implementation of all safety procedures, training, and hazard elimination practices.
- Keep fully informed on all safety and health issues throughout the company in order to continuously review the effectiveness of the current safety and health program.
- Conduct regular and periodic safety inspections of all jobs in progress.

## **Safety Responsibilities (cont.)**

### **Corporate Safety Director**

- Provides to all levels of management the services and technical advice needed for proper administration of the Safety Program.
- Develops technical guidance and interim programs to identify and remove physical hazards from all construction sites.
- Formulates, recommends, and administers approved changes to the Safety Program.
- Prepares and distributes to all department heads regular reports on the status of safety.
- Advises all levels of management on matters pertaining to safety, including establishing a “chain of command” and a network to communicate safety matters within the organization.
- Maintains an adequate accident report system, personally investigating serious accidents and taking corrective action to eliminate accident causes.
- Cooperates with project management and supervisory personnel in the safety training of employees.
- Conducts periodic safety inspections of all job sites and directs corrective actions for any unsafe conditions or work practices.
- Insures there is full compliance with applicable Federal, State, and Local regulations.
- Recommends programs and activities that will develop and maintain incentives for and motivation of company employees in safety.
- Recommends disciplinary procedures for violators of safety rules.

### **Project Manager**

- Thoroughly understands the safety regulations related to projects under his control.
- Directs and coordinates the safety effort for all projects under his control.
- Conducts periodic safety inspections of projects under his control, directs corrective action for unsafe conditions noted and informs the Superintendent and Safety Manager of inspection results.
- Reviews all accidents with Superintendents and assures that corrective action is taken immediately to alleviate the cause.
- Includes safety as an agenda and discussion item for all project related meetings and documents the discussion in the meeting minutes.
- Provides information and recommendations (“feedback”) to the Safety Manager concerning safety matters.

## **Safety Responsibilities (cont.)**

### **General Superintendent**

- Thoroughly understands the safety regulations related to his area of responsibility.
- Directs and coordinates safety activities of all Superintendent/Foremen.
- Provides leadership and motivation to all Superintendent/Foremen concerning compliance with the safety program.
- Requires all Superintendents/Foremen to utilize the proper individual protective equipment and job safety devices.
- Conducts periodic safety inspections of all job sites, directs corrective action for unsafe conditions noted and informs the Project Manager, Superintendent, and Safety Manager of inspection results.
- Assures that all field personnel are aware of and comply with requirements for safe practices and conditions to be maintained on job sites.
- Reviews all accidents with Project Managers, Superintendents, and the Safety Manager and assures that corrective action is taken immediately to identify and alleviate the cause.
- Provides information and recommendations (“feedback”) for improvement of the safety program to the Safety Manager.

### **Superintendent/Foreman**

- Thoroughly understands and enforces regulations applicable to company operations within their area of responsibility.
- Directs, coordinates, and corrects safety activities within his area of responsibility, including the motivation of employees for safe work practices on all job sites under his control.
- Conducts daily safety inspections of all work areas at the job site, directs corrective action for unsafe conditions noted and informs the Project Manager, General Superintendent, and Safety Manager of inspection results.
- Assures that safety equipment is available and equipment storage locations are clearly designated.
- Requires all employees under his supervision to utilize the proper individual protective equipment and job safety devices.
- Instructs all persons within their area of responsibility in job safety and requirements and insists on compliance.
- Assures that injuries are treated promptly and reported properly.

## **Safety Responsibilities (cont.)**

### **Superintendent/Foreman - Continued**

- Investigates all accidents, obtains all pertinent data, files a complete report with the Safety Manager, and initiates immediate corrective action.
- Assures that no unsafe conditions exist in their area of responsibility and reports to the Project Manager, General Superintendent or Safety Manager on any corrective actions needed which are beyond his control.
- Requires all subcontractors and subcontract personnel to comply with applicable safety regulations.
- Conducts and documents weekly “tool box” safety meetings on each job.

### **Personnel/Clerk**

- Maintains all records of accidents that have taken place during company operations on forms designated by OSHA, the insurance company and other authorized agencies.
- Processes all paperwork associated with accidents and in-house audits. Maintains permanent records for company files.
- Prepares all notices required by OSHA, State and other appropriate agencies for posting at each construction project location in accordance with designated time regulations. (Example: OSHA Annual Summary of Injuries and Illness.)

### **All Employees**

- Strive to make all operations safe.
- Be familiar with and comply with safety and health practices.
- Use the required safety devices and proper personal protective safety equipment.
- Replace or repair safety precautions removed or altered before leaving the work area.
- Keep all work areas clean and free of debris.
- Maintain mental and physical health conducive to working safely.
- Notify Supervisor immediately of unsafe conditions and acts.
- Report all accidents to Supervisor immediately.

## **SAFETY RULES AND PROCEDURES**

### **Introduction**

In order for a safety program to be effective, it is vital that procedures be established, monitored by responsible individuals, and implemented at all levels of employment. Following are some of the general safety rules and procedures applicable to our operations that must be enforced on every project contracted by Clancy & Theys Construction Company. This is a partial listing only. The pertinent requirements of OSHA Regulation CFR 29, Part 1926 "Safety and Health Regulations for Construction" with CFR29, Part 1910 identified as "Applicable to Construction," also apply to this firm and its employees.

Since safety rules can only be effective if they are known by everyone, Clancy & Theys' safety rules will be:

- Posted in appropriate visible places
- The subject of weekly tool box safety meetings
- Reviewed with each new employee

All employees must acknowledge receipt of their copy of the "Basic Safety Rules for Construction" and "Employee Safety Handbook" by signing the appropriate form on the last page of the Handbook. Above all, employees should protect themselves and fellow workers by following the rules.

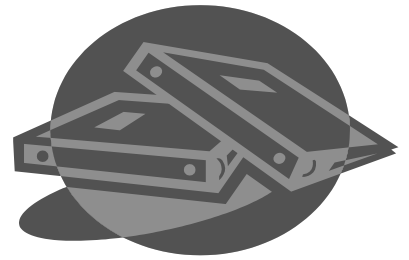
## GENERAL SAFETY RULES

- These are general safety rules only and are not all inclusive. The OSHA standards shall be observed and strictly adhered to at all times.
- The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazard or other exposure to illness or injury.
- All employees shall work in a safe manner as to insure the well being of themselves and their fellow workers.
- Horseplay, pranks, or unsafe conduct will not be allowed.
- Drugs and alcohol are prohibited.
- Prescription drugs, which impair ability to work safely, are prohibited.
- Firearms are prohibited on all projects, company property(s), and vehicles.
- All employees shall wear hard hats, eye protection and proper clothing as required by OSHA Standards and the project specific safety rules...
- On projects under construction
- Truck drivers when out of the vehicle.
- In designated areas of the Shop & Warehouse.
- Making material deliveries to projects under construction.
- Earplugs shall be worn whenever there is exposure to sudden loud noise (Powder Actuated Tools) or long exposures with volume levels greater than normal conversation. (Hammer drills, Jack Hammers, etc.)
- Proper respiratory equipment shall be worn when exposed to airborne contaminants such as dusts, mists or fumes. (Refer to MSDS Sheets for proper equipment)
- Do not bring personal tools to work that are damaged.
- Smoking is permitted only in designated areas. Never smoke around fuel or other flammable objects.
- Hazardous materials or chemicals shall not be used without proper training in the use, hazards, and personal protective equipment.
- MSDS sheets shall be readily available for all employees with potential exposure to a hazardous material.
- Power and hand tools shall be inspected prior to each shift or before use. Damaged items shall be tagged out (DO NOT USE).
- Employees using powder-actuated tools shall have a user certification card showing training for that specific model in use. The certification card shall be on their person.
- Compressed gas cylinders shall be secured and in the upright position at all times. Even when empty.
- Welding and Cutting operations shall only be performed by trained, authorized personnel.
- Extension cords & power tools shall be inspected daily or before use for defects. Unsafe cords or tools shall not be used and will be tagged out of service until repaired or discarded.
- GFCIs (Ground Fault Circuit Interrupters) shall be used at all times regardless of work being performed.
- Lock-out / Tag-out standards apply when working on or servicing equipment or whenever there is a potential for stored energy of any type to be released and cause injury. (field, shop, warehouse, service call)
- Scaffolding shall be erected and dismantled only under supervision of a Competent Person.
- When erecting or dismantling scaffolding systems, proper fall protection systems shall be used.
- Scaffolding shall be inspected daily for defects or unsafe conditions prior to beginning work by a Competent Person.

### **General Safety Rules (cont.)**

- Employees shall not be permitted on scaffolding during severe weather conditions such as high winds, snow, ice or thunderstorms.
- Employees are not permitted to stay on scaffolding while the scaffolding is being moved.
- Care should be taken not to place scaffolding within 10 feet of overhead power lines.
- Aerial lifts are to be operated only by trained, authorized personnel.
- A personal fall arrest system is required for anyone using an articulating boom “Cherry Picker” type aerial lift.
- Fall protection is required when workers are exposed to fall hazards of 6 feet or greater. (This does not apply to scaffolding, ladders, stairways or steel erection) See the appropriate standard for there specific rules.
- Employees shall be trained in fall protection and the used of fall protection systems before they are exposed to fall hazards.
- Employees working with or around cranes, hoists, or boom trucks shall be instructed in the hazards associated with them such as rigging, overhead electrical lines, and proper signaling.
- Seat belts are to be worn at all times when seated in a motor vehicle or on equipment with a Roll-Over Protection System (ROPS).
- Only authorized personnel shall operate a motor vehicle or motorized equipment.
- Trenching or excavation operations are to be under the supervision of a Competent Person.
- A stairway or ladder shall be provided at all personnel points of access where there is a break in elevation of nineteen inches (19”) or more.
- Only persons trained in safe ladder practices shall use ladders.
- Ladders shall be inspected for defects daily before use. Defective equipment shall be taken out of service, tagged, and repaired/destroyed.
- Ladders shall only be used for purposes for which they were manufactured. Never alter or disassemble a ladder for any reason.
- For additional information see the "**Basic Safety Rules for Construction, Clancy & Theys Safety Manual, and Employee Information Handbook**"

## SAFETY TRAINING AND MEETINGS



Training will be an essential part of the Clancy & Theys Safety Program. With proper education, employees will learn how to protect themselves and others around them from hazardous situations.

Each employee of Clancy & Theys will be properly trained for the tasks that they must perform. The training an employee receives will take place as follows:

- New Hire Orientation
  - Fall Protection
  - Hazard Communications
  - Personal Protective Equipment
  - Electrical
  - Small Tools
    - Skill, Reciprocating and Gas Cutoff Saws
    - Standard Drills and Rotary Hammers
    - Electric Generators
    - Powder Actuated Tools
      - Certification Cards will be Issued
- On the Job Training

Each employee will be trained on various subjects throughout their career with Clancy & Theys. Supervisors or other qualified persons will conduct necessary training prior to the employee(s) actually performing the task at hand.
- Weekly Training (Field Employees)

Field Employees will receive weekly training in the form of "Toolbox Talks" as well as Formal Classroom and Hands-On Training. Training will take place at a minimum of once per week. However, the project Superintendent is not limited to the number of times training can be performed.

The Safety Director shall provide supervisors with safety topics and discussion items each month. In addition to the safety topic, supervisors may discuss other items such as recent accidents and injuries, results of safety inspections, and revisions of safety policies and procedures.

Documentation will be maintained on each employee safety meeting. It should contain the subjects discussed as well as an attendance sheet. **The original attendance sheet shall be returned to the Clancy & Theys home office for processing.** Fax copies will not be allowed unless prior arrangements are made with the Corporate Safety Director.



## **Safety Training and Meetings - cont.**

Weekly Safety meeting **attendance sheets** are part of a Supervisors Safety Bonus Program. These sheets are required to be **turned into the Clancy & Theys home office** no more than **30 days** from the date the training was held. Failure to submit documentation shall result in actions taken in accordance with the Supervisors Safety Incentive Program.

When meetings are held periodically, there is always the danger that they will become dull and routine. We will continuously review and improve our meeting plans to prevent this from happening. Supervisors will follow the below plan of action to ensure successful safety meetings are conducted:

### **A. Preparing for the Meeting**

- Supervisors will conduct frequent inspections of the various areas and work practices and note any unsafe acts being performed or unsafe conditions that need to be corrected.
- Supervisors will select an unsafe act or condition to be used as a Safety Meeting topic for the benefit of all. A Safety Meeting can help identify and eliminate hazards before accidents occur.

### **B. Conduct the Meeting**

- Supervisors will discuss only one topic per meeting.
- Allow employees to discuss why the situation occurs.
- Reach an agreement with employees on how to eliminate or control the situation.

### **C. Keep a Record of the Meeting**

- Copies of the monthly safety meeting report forms will be sent to the Safety Director. The Supervisor should keep originals in his or her area.

## **• Monthly Training (Superintendents & Project Managers)**

Project Managers and Superintendents will receive training monthly on various topics. Training will cover a variety of topics designed to keep them up to date on safety related issues. This time will also be utilized to inform them of new products, processes, or policies that can aid in making our projects safer.

Supervisors shall attend monthly safety meetings as part of an ongoing training program. These meetings will focus on:

- hazard recognition and awareness;
- changes or modifications to government safety and health regulations;
- changes or modifications to Clancy & Theys policies or procedures;
- and other information deemed necessary.

The dates and times for these meetings shall be determined by the Branch Manager and will vary accordingly.

These meeting are to be attended by all Superintendents, Project Managers and those designated to attend by a company officer.

The attendance of the Monthly Supervisor Safety Meeting is an important part of a supervisor's job requirements. Failure to attend these meetings may affect a Supervisors performance evaluation as well as any bonus they may or may not receive.

### **Safety Training and Meetings - cont.**

- Annual Training

Field employees will attend the Clancy & Theys "Annual Safety Day" with the purpose of receiving a full day of intense safety related training. Topics will vary from year to year depending on the recommendations of the Safety Committee. The Safety Committee will base topics on the "Injury & Illness Log" and Project Safety Audits for the past year as well as any other material deemed necessary.

## **SAFETY COMMITTEE**

*Individual Branches Committees*

*Corporate Safety Committee*

### **Branch Safety Committees Purpose**

A safety committee has been established as a management tool to recommend improvements to our workplace safety program and to identify corrective measures needed to eliminate or control recognized safety and health hazards.

### **Responsibilities**

Each Branch Safety Committee will be responsible for:

- Assisting management in communicating procedures for evaluating the effectiveness of control measures used to protect employees from safety and health hazards in the workplace.
- Assisting management in reviewing and updating workplace safety rules based on accident investigation findings, any inspection findings, and employee reports of unsafe conditions or work practices; and accepting and addressing anonymous complaints and suggestions from employees.
- Assisting management in updating the workplace safety program by evaluating employee injury and accident records, identifying trends and patterns, and formulating corrective measures to prevent recurrence.
- Assisting management in evaluating employee accident and illness prevention programs, and promoting safety and health awareness and co-worker participation through continuous improvements to the workplace safety program.
- Participating in safety training and for assisting management in monitoring workplace safety education and training to ensure that it is in place, that it is effective, and that it is documented.
- Management will provide written responses to recommendations of the safety committee.

### **Meetings**

- Safety committee meetings are held bi-monthly and more often if needed.
- Meetings are documented with minutes and available to all employees upon request.
- All safety committee records will be maintained for not less than three calendar years.

## ACCIDENT REPORTING PROCEDURES WORKER COMPENSATION



- **Call Travelers at 1-877-828-4132** immediately following an accident on the job. Inform the representative that you work for Clancy & Theys Construction Company and the type of incident you are reporting (Worker's Comp/Auto/General Liability).
- **Only** take the employee immediately to an urgent care or hospital emergency room if the injury warrants immediate action other than standard first aid.
  - *Don't be concerned whether or not you have all of the employee's personal data. Just have the person whom you called in the report too at Travelers call Cynthia Dunmire at 919-834-3601 x209.*
- **Fill out** the Clancy & Theys **Accident Report Form completely, accurately and in detail** as part of your investigation into the accident and turn the form in to the office the following business day. Forms may be faxed to Cynthia Dunmire's attention at (919) 836-2160 and the original turned in later.

**The SUPERINTENDENT MUST CALL IN ALL ON-THE-JOB ACCIDENTS To TRAVELERS INSURANCE COMPANY.**

## ACCIDENT REPORTING PROCEDURES VEHICLE ACCIDENTS (cont.)



- **Call 911** or the State Highway Patrol to report the accident immediately.  
*If the accident occurred on personal property the police may not respond. In such case, you will still need to completely fill out the Clancy & Theys Vehicle Accident Report which includes the other driver's information. Also provide our information in return.*
- The vehicle insurance card should be located in the vehicle glove compartment at all times.
- **Call** Fleet & Equipment Manager at Clancy & Theys' home office and report the accident and he will contact our insurance carrier. If you or others need medical attention then report the accident to the home office at the earliest possible time. 919-834-3601 x220
- **Completely fill out** a Vehicle Accident Report Slip and return to the Clancy & Theys home office in Raleigh. This form should be kept in the vehicle glove compartment at all times.
- The **assigned driver** will be **responsible** for **obtaining estimates of repair** and arranging with the Shop Foreman (Issac Ferrell) a time and date for the repair work to be done. You will also need to make arrangements with the Shop Forman for an alternate vehicle to drive while repairs are being made.
- **At no time should a Clancy & Theys employee admit fault or guilt.** Police and insurance investigators will determine who is at fault.

## REPORTING THEFT

- **Call 911** or the local authorities upon discovering a theft has taken place.
- Do not disturb anything or allow anyone into the area until the police arrive.
  - Make a detailed report of stolen items and include the model and serial numbers if possible.
- **Call** Fleet & Equipment Manager at Clancy & Theys' home office and report the theft and he will contact our insurance carrier.





# Accident / Incident Investigation Report

Date of Incident: \_\_\_\_/\_\_\_\_/20\_\_\_\_ Time of Incident: \_\_\_\_:\_\_\_\_ AM PM

Project Name / # / Location \_\_\_\_\_  
Project Name Number Location

☐ C&T Employee

Employee's Full Name - Printed Position

☐ Subcontractor

Company Name Subcontractor Employee Name

☐ Near Miss

Affected Company and/or Employees Involved

What caused the incident?

☐ Employee Misconduct

☐ Tool or Equipment

☐ Not / Insufficiently trained

☐ Fall ☐ Struck By...

☐ Lifting

☐ Electrical

☐ Hazardous Material

☐ Caught In-Between

☐ Other \_\_\_\_\_

Describe in detail how the accident happened: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What task was the worker performing at the time of the accident?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Employee's Statement of what happened: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Witnessed by: \_\_\_\_\_  
Name Printed Name Printed Name Printed

Describe in detail how this incident may be prevented in the future: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Nature of Injury (Specify body and Injury)

☐ Head ☐ Face ☐ Neck ☐ Back  
(Right) ☐ Arm ☐ Hand \_\_\_\_\_ (Finger) ☐ Leg ☐ Knee ☐ Foot \_\_\_\_\_ (Toe) ☐ Eye ☐ Ear  
(Left) ☐ Arm ☐ Hand \_\_\_\_\_ (Finger) ☐ Leg ☐ Knee ☐ Foot \_\_\_\_\_ (Toe) ☐ Eye ☐ Ear  
☐ Other Body Part \_\_\_\_\_

Medical Care Provider \_\_\_\_\_ Location \_\_\_\_\_

Name of Doctor \_\_\_\_\_

Did the worker return to work after receiving first aid or medical attention? ☐ Yes Date Returned \_\_\_\_/\_\_\_\_/\_\_\_\_

☐ NO "State Reason" \_\_\_\_\_

Project Superintendent \_\_\_\_\_  
Name Printed Signature Date \_\_\_\_/\_\_\_\_/20\_\_\_\_



# Property / General Liability Claims Investigation Report

Date of Incident: \_\_\_\_/\_\_\_\_/20\_\_\_\_ Time of Incident: \_\_\_\_:\_\_\_\_ AM PM

Project Name / # / Location \_\_\_\_\_  
Project Name Number Location

Project Supervisor \_\_\_\_\_  
Name Printed Signature

Incident Involved: ☐ C&T  
☐ Subcontractor(s) \_\_\_\_\_  
Affected Company and/or Employees Involved  
☐ Other(s) \_\_\_\_\_  
Affected Company and/or Employees Involved

What caused the incident? ☐ Fire ☐ Water ☐ Act of God ☐ Theft ☐ Equipment Failure  
☐ Other \_\_\_\_\_

Describe in detail how the incident happened: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

List any damaged or stolen property and the owner of that property:

Property - Brief and Accurate Description	Owner
Property - Brief and Accurate Description	Owner
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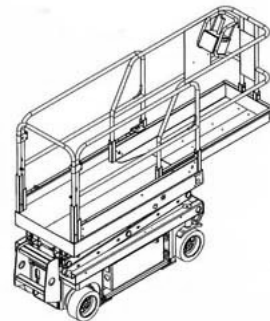
Witnessed by: \_\_\_\_\_  
Name Printed Name Printed Name Printed

Describe in detail how this incident may be prevented in the future: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Office Use Only

General Liability Insurance Carried by ☐ C&T ☐ Subcontractor ☐ Owner ☐ Other \_\_\_\_\_  
Will this potential claim need to be reported? ☐ No ☐ Yes - Claim # \_\_\_\_\_ Date Reported \_\_\_\_/\_\_\_\_/\_\_\_\_

## **AERIAL LIFT SAFETY PROGRAM**



### **Purpose**

Aerial Lifts are a valuable part of any construction project. They can provide a safe means of lifting personnel to great heights as long as they are used properly and by trained operators. Clancy & Theys is devoted to insuring the safety of its employees at any height.

Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground:

- Extendable boom platforms
- Aerial ladders
- Articulating boom platforms
- Vertical towers
- A combination of any such devices

Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated; and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.

### **Training**

Only trained and authorized employees shall operate an aerial lift. A qualified person shall conduct training which shall consist of the following:

- Each Clancy & Theys employee who performs work while on an aerial lift shall be trained in how to recognize the hazards associated with the type of lift being used and to understand the procedures to control or minimize those hazards.
- The nature of any electrical hazards and correct procedure for dealing with electrical hazards
- Fall hazards and falling object hazards in the work area
- Fall protection systems and falling object protection systems being used
- The proper use of the lifts, and the proper handling of materials on the lift
- The maximum intended load and the load-carrying capacities of the lift being used
- Any other pertinent requirements or the manufacturer's safety operating procedures

### **Transportation of Aerial Lifts**

If aerial lifts are transported via company owned vehicle, care should be taken in the safe loading and unloading of the lift. Only trained persons shall transport, load or unload an aerial lift.

### **Modification**

Clancy & Theys prohibits the modification of any aerial lift.

### **Inspection**

Aerial lifts shall be inspected daily or prior to each work shift for wear or damage that has a potential to cause mechanical failure and a checklist fill out.

### **Hazards in the Work Area**

The work area shall be inspected for potential hazards which may include the following\*\*\*:

- Holes or opening in floor
- Overhead Hazards and/or Electrical Items
- Trash, Power Cords, Hoses, etc. (Any object that may cause the lift to stop abruptly.)



## **Aerial Lift Safety Program (cont.)**

- Presence of Water or Oil on floor
- Other Personnel in the work area

\*\*\*If potential hazards are present they shall first be abated. If it is not feasible to remove potential hazards, extreme caution shall be used. Employees are to be trained in the recognition of these hazards and what protective measures are to be taken prior to operation.

### **Use**

- Lifts shall not be loaded in excess of their maximum intended loads.
- Load ratings will be located on a Load Chart Decal somewhere on the machine.
- Lifts shall be equipped with both upper and lower controls.
- When outriggers are used, brakes shall be set.
- Lifts shall be fully lowered when in motion, unless specifically designed to move while extended.
- A minimum 10 feet clearance distance from energized power lines shall be maintained.
- Debris shall not be allowed to accumulate on work platforms.
- Makeshift devices, such as, but not limited to boxes and buckets, shall not be used to increase the working level heights of employees.
- Ladders shall not be used on lift platforms to increase the working level heights of employees.
- Ignition key is to be removed when lift is unattended.

### **Fall Protection**

- Employees shall wear a Personal Fall Arrest System (PFAS) while on an articulating boom lift at all times, regardless of the height.
- Employees on a scissor type lift in which the workbasket will only move in the vertical direction need not wear a PFAS. The handrail on the lift basket is all the fall protection that is required by OSHA. Employees may opt to wear a PFAS if they so choose.
- Employees shall be trained in proper wear and inspection of a PFAS.
- Employees are to use factory installed anchor points within the lift basket. Securing a PFAS to hand railing is prohibited.

### **Falling Object Protection**

Where there is a danger of tools, materials, or equipment falling from an aerial lift and striking workers below, the following shall apply:

- Barricade or flag off the area and warn employees and others of the hazard. All persons shall be kept out of the barricaded area.
- Employees are required to wear head protection if working in the area below an aerial lift is unavoidable.

## AERIAL LIFT INSPECTION CHECKLIST

The following "Inspection Checklist" shall be used for each inspection. The checklist documents generated must be kept for the duration of the project and turned over to the Safety Director at the completion of the project.

Aerial Lift Make \_\_\_\_\_ Model \_\_\_\_\_

Inspection Date \_\_\_\_/\_\_\_\_/\_\_\_\_ Inspected By \_\_\_\_\_  
 Name Printed

Rental ☐ -- Rental Company \_\_\_\_\_  
 Owned ☐

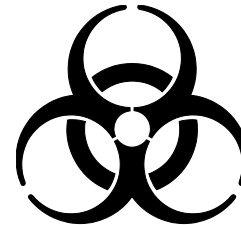
### EQUIPMENT INSPECTION

	<u>OK</u>	<u>Defective*</u>	<u>Repaired</u>	<u>Date of Repair</u>	<u>Comments</u>
Tires	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Basket Rails & Toeboards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Decals, Ratings, & Warnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Lift Arm, Boom, or Scissors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Fluid Levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Battery Charge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Personal Fall Arrest System**	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Operable Gate / Latch / Chain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Operator's Manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Lift Controls Operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
Warning Lights or Alarms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____
"Kill Switch" mechanism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	____/____/____	_____

\* If any defects are found during the inspection process the machine must be tagged "Out of Service" until repaired by a qualified technician.

\*\*A personal fall arrest system (PFS) is only required while in an Articulating Boom Lift. (Cherry Picker Type) If a PFS is used, appropriate anchorage points must be inspected.

## **BLOOD BORNE PATHOGENS EXPOSURE CONTROL PROGRAM**



### **Purpose**

The purpose of this exposure control plan is to:

1. Eliminate or minimize employee occupational exposure to blood or certain other body fluids.
2. Show Clancy & Theys' compliance with OSHA's Bloodborne Pathogens Standard, 29 CFR 1910.1030.

### **Policy**

It is our company policy that only trained and authorized employees are allowed to handle or clean up blood and other body fluids. These trained and authorized employees shall use the appropriate personal protective equipment (latex gloves and safety glasses at a minimum) to protect themselves when working with or around blood and other body fluids. These employees shall always wash their hands thoroughly and promptly after contact with blood or body fluids, even if gloves or other barriers were used. Wash hands with non-abrasive soap and running water then dry with disposable towels. Antiseptic towelettes may be used to cleanse hands. Anything contaminated with potentially infectious substances shall be disposed of properly.

### **Exposure Determination**

OSHA requires employers to perform an exposure determination concerning which employees may incur occupational exposure to blood or other potentially infectious materials. The exposure determination is made without regard to the use of personal protective equipment (i.e. employees are considered to be exposed even if they wear personal protective equipment). This exposure determination is required to list all job classifications in which all employees may be expected to incur such occupational exposure, regardless of frequency. At our company, the following job classifications are in this category:

- First Aid & CRP Responders

### **Implementation Schedule and Methodology**

Clancy & Theys requires that this plan include a schedule and method of implementation for the various requirements of the standard. The following complies with this requirement:

#### **1. Compliance Methods**

Universal precautions will be observed at this facility or jobsite in order to prevent contact with blood or other potentially infectious materials. All blood or other potentially infectious material will be considered infectious regardless of the perceived status of the source individual.

#### **2. Contaminated Equipment**

The First Aid & CRP Responder is responsible for ensuring that equipment which has become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary unless the decontamination of the equipment is not feasible.

## **Blood borne Pathogens Exposure Control (cont.)**

### **3. Personal Protective Equipment (PPE)**

The supervisor is responsible for all personal protective equipment used at the project and will ensure equipment is provided, without cost to employees. Personal protective equipment will be chosen based on the anticipated exposure to blood or other potentially infectious materials. The protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employees' clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time in which the protective equipment will be used.

Minimum PPE Needed & Provided: Latex Gloves & Eye Protection

### **4. PPE Use**

The supervisor shall ensure that the First Aid & CRP Responder uses appropriate PPE unless the supervisor shows that employee temporarily and briefly declined to use PPE when under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or posed an increased hazard to the safety of the worker or coworker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

### **5. PPE Cleaning, Laundering, and Disposal**

All personal protective equipment will be cleaned, laundered, or disposed of by the employer at no cost to the employees. All repairs and replacements of PPE will be made by the employer, at no cost to employees.

Gloves shall be worn where it is reasonably anticipated that employees will have hand contact with blood, other potentially infectious materials, non-intact skin, and mucous membranes; when performing vascular access procedures, and when handling or touching contaminated items or surfaces.

Disposable gloves are used at this facility and are not to be washed or decontaminated for reuse and are to be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn punctured, or when their ability to function as a barrier is compromised.

### **6. Housekeeping**

All contaminated work areas or equipment will be decontaminated immediately or as soon as feasible, after any spill of blood or other potentially infectious materials.

Any items, which may be contaminated, will not be picked up directly with the hands. Dustpans and hand brooms or forceps / tongs are available for use. Contaminated materials shall be placed in sturdy, leak-proof containers that are properly labeled and then appropriately disposed of.

### **7. Hepatitis B Vaccine and Post-Exposure Evaluation and Follow Up**

Clancy & Theys shall make available the Hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post exposure follow-up to employees who have had an exposure incident.

The supervisor shall ensure that all medical evaluations and procedures including the Hepatitis B vaccine and vaccination series and post exposure follow-up, including prophylaxis are:

- a) Made available at no cost to the employee
- b) Made available to the employee at a reasonable time and place

## **Blood borne Pathogens Exposure Control (cont.)**

- c) Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed health care professional
- d) Provided according to the recommendations of the US Public Health Service

All laboratory tests shall be conducted by an accredited laboratory at no cost to the employee.

### **8. Hepatitis B Vaccination**

The supervisor is in charge of the Hepatitis B vaccination program.

Hepatitis B vaccination shall be made available after the employee has received the training in occupational exposure (see information and training) and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete Hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

Participation in a prescreening program shall not be a prerequisite for receiving Hepatitis B vaccination.

If the employee initially declines Hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the vaccination shall then be made available.

All employees who decline the Hepatitis B vaccination offered shall sign the OSHA required waiver indicating their refusal. (See Declination form at end of this section)

If a routine booster dose of Hepatitis B vaccine is recommended by the US Public Health Service at a future date, such booster doses shall be made available.

### **9. Post Exposure Evaluation and Follow-up**

All exposure incidents shall be reported, investigated, and documented. When the employee incurs an exposure incident, it shall be reported to the supervisor who has responsibility for investigation of exposure incidents.

Following a report of an exposure incident, the exposed employee shall immediately receive a confidential medical evaluation and *follow-up*, including at least the following elements:

- a) Documentation of the route of exposure, and the circumstances under which the exposure incident occurred;
- b) Identification and documentation of the source individual, unless it can be established that identification is infeasible or prohibited by state or local law.
- c) The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and/or HIV infectivity. If consent is not obtained, the Safety Director shall establish that legally required consent cannot be obtained. When law does not require the source individual's consent, the source individual's blood, if available, shall be tested and the results documented.
- d) When the source individual is already known to be infected with HBV and/or HIV, testing for the source individual's known HBV and/or HIV status need not be repeated.
- e) Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

## **Blood borne Pathogens Exposure Control (cont.)**

Collection and testing of blood for HBV and HIV serological status will comply with the following:

- a) The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained;
- b) The employee will be offered the option of having their blood collected for testing of the employees HIV/HBV serological status. The blood sample will be preserved for up to 90 days to allow the employee to decide if the blood should be tested for HIV serological status.

All employees who incur an exposure incident will be offered post-exposure evaluation and *follow-up* in accordance with the OSHA standard. All post exposure *follow-up* will be performed by the Company's Health Care Professional at that present time.

### **10. Information Provided to the Health Care Professional**

The supervisor shall ensure that the health care professional responsible for the employee's Hepatitis B vaccination is provided with the following:

- a) A copy of 29 CFR 1910.1030; (While the standard outlines the confidentiality requirements of the health care professional, it might be helpful for the employer to remind that individual of these requirements.)
- b) A written description of the exposed employee's duties as they relate to the exposure incident;
- c) Written documentation of the route of exposure and circumstances under which exposure occurred;
- d) Results of the source individuals blood testing, if available; and
- e) All medical records relevant to the appropriate treatment of the employee including vaccination status.

### **11. Health Care Professional's Written Opinion**

The supervisor shall obtain and provide the employee with a copy of the evaluating health care professional's written opinion within 15 days of the completion of the evaluation.

The health care professional's written opinion for HBV vaccination shall be limited to whether HBV vaccination is indicated for an employee, and if the employee has received such vaccination. The health care provider's written opinion for post exposure follow-up shall be limited to the following information:

- a) A statement that the employee has been informed of the results of the evaluation; and
- b) A statement that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

Note: All other findings or diagnosis shall remain confidential and shall not be included in the written report.

### **12. Information and Training**

The employee's supervisor shall ensure that Blood borne Pathogens training is provided at the time of initial assignment to tasks where occupational exposure may occur, and that it shall be repeated within twelve months of the previous training.

Training shall be tailored to the education level and language of the employee.

### **13. Record keeping - Medical Records**

#### **Medical Records**

## **Blood borne Pathogens Exposure Control (cont.)**

Personnel Director is responsible for maintaining medical records as indicated below. These records will be kept in the Medical Record Files.

Medical records shall be maintained in accordance with OSHA Standard 29 CFR 1910.20. These records shall be kept confidential, and must be maintained for at least the duration of employment plus 30 years. The records shall include the following:

- a) The name and social security number of the employee.
- b) A copy of the employee's HBV vaccination status, including the dates of vaccination.
- c) A copy of all results of examinations, medical testing, and follow-up procedures.
- d) A copy of the information provided to the health care professional, including a description of the employee's duties as they relate to the exposure incident, and documentation of the routes of exposure and circumstances of the exposure.

Note: For OSHA 300 Record keeping purposes, an occupational Blood borne pathogens exposure incident shall be classified as an injury since it is usually the result of an instantaneous event or exposure. It shall be recorded if it meets the recordability requirements.

### **14. Training Records**

The Safety Director is responsible for maintaining the following training records. Training records shall be maintained for three years from the date of training. The following information shall be documented:

- a) The dates of the training sessions;
- b) An outline describing the material presented;
- c) The names and qualifications of persons conducting the training;
- d) The names and job titles of all persons attending the training sessions.

### **15. Availability**

All employee records shall be made available to the employee in accordance with 29 CFR 1910.20.

All employee records shall be made available to the Assistant Secretary of Labor for the Occupational Safety and Health Administration and the Director of the National Institute for Occupational Safety and Health upon request.

### **16. Transfer of Records**

If this facility is closed or there is no successor employer to receive and retain the records for the prescribed period, the Director of the NIOSH shall be contacted for final disposition.

### **17. Evaluation and Review**

The Safety Director is responsible for annually reviewing this program and its effectiveness, and for updating this program as needed.



### **Hepatitis B Vaccination Declination**

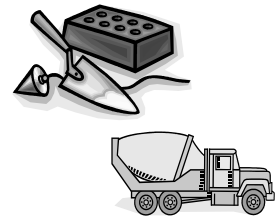
I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself; however, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious and potentially life threatening disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Print Your Complete Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**\* THE SIGNED ORIGINAL COPY OF THIS DECLINATION SHALL BE GIVEN TO YOUR MANAGER – IT WILL BE FILED IN YOUR PERSONNEL FILE.**





## CONCRETE AND MASONRY CONSTRUCTION

### **Purpose**

This program is designed to help protect all construction workers from the hazards associated with concrete and masonry construction operations at construction, demolition, alteration or repair worksites.

Working with concrete can pose hazards in many different areas such as...

- Working with hazardous materials
- Working around construction equipment, including boom trucks and cranes
- Working with forming/shoring materials and systems
- Falls and impalement

### **Training**

Employees of Clancy & Theys will be trained in a minimum of the following areas prior to working with concrete and/or masonry construction:

- Hazard Communications concerning concrete and masonry materials, including proper Personal Protective Equipment.
- Working with and around construction necessary equipment.
- Fall protection systems and impalement hazards, including, but not limited to the following:
  - OSHA Construction Standards 1926 Subpart M & L
  - Competent Person designation and training for the applicable areas

### **General Requirements**

#### **Construction Loads**

Employers must not place construction loads on a concrete structure or portion of a concrete structure unless the employer determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure is capable of supporting the intended loads.

#### **Reinforcing Steel**

Reinforcing steel for walls, piers, columns, and similar vertical structures must be adequately supported to prevent overturning and collapse.

Installers must take measures to prevent unrolled wire mesh from recoiling. Such measures may include, but are not limited to, securing each end of the roll or turning over the roll.

Reinforcing steel shall be covered according to the OSHA standards any time there is a potential for a worker to be impaled.

#### **Post-Tensioning Operations**

Only employees essential to the post-tensioning operations are to be permitted to be behind the jack during tensioning operations.

Signs and barriers must be erected to limit employee access to the post-tensioning area during tensioning operations.

## **Concrete and Masonry Construction (cont.)**

### General Requirements - Continued

#### Concrete Buckets

Employees are not to be permitted to ride concrete buckets.

Employees will not be permitted to work under concrete buckets while the buckets are being elevated or lowered into position.

To the extent practical, elevated concrete buckets must be routed so that no employee, or the fewest number of employees possible, is exposed to the hazards associated with falling concrete buckets.

### **Concrete Safety**

#### Personal Protective Equipment

Employees must not be permitted to apply a cement, sand, and water mixture through a pneumatic hose unless they are wearing protective head and face equipment.

Employees must not be permitted to place or tie reinforcing steel more than 6 feet above any adjacent working surfaces unless they are protected by the use of a safety belt or equivalent fall protection.

Employees must also wear appropriate personal protective equipment as recommended by the MSDS Sheet. Employees will be trained in the use, care, inspection and maintenance of required PPE equipment.

#### Equipment and Tools

Employees will be trained in the proper use, care, inspection and operations of related equipment to be used. Equipment will be inspected prior to each use for defects or wear. Faulty equipment will be tagged out of service until repaired or discarded.

### **Cast-In-Place Concrete**

#### General Requirements for Formwork

Formwork must be designed, fabricated, erected, supported, braced, and maintained so that it will be capable of supporting, without failure, all vertical and lateral loads that might be applied to the formwork.

#### Drawings or Plans

Drawings and plans, including all revisions for the jack layout, formwork (including shoring equipment), working decks and scaffolds, must be available at the jobsite.

#### Shoring and Re-shoring

All shoring equipment (including equipment used in re-shoring operations) must be inspected prior to erection to determine that the equipment meets the requirements specified in the formwork drawings.

Damaged shoring equipment must not be used for shoring. Erected shoring equipment must be inspected immediately prior to, during, and immediately after concrete placement. Shoring equipment found to be damaged or weakened after erection must be immediately reinforced.

## **Concrete and Masonry Construction (cont.)**

If single-post shores are used, one on top of another (tiered), then additional shoring requirements must be met. The shores must be as follows:

- Designed by a qualified designer and inspected by an engineer qualified in structural design
- Vertically aligned
- Spliced to prevent misalignment
- Adequately braced in two mutually perpendicular directions at the splice level. Each tier also must be diagonally braced in the same two directions

Adjustment of single-post shores to raise formwork must not be made after the placement of concrete.

Whenever the concrete is required to support loads in excess of its capacity, re-shoring must be erected as the original forms and shores are removed.

### **Vertical Slip Forms**

The steel rods or pipes on which jacks climb or by which the forms are lifted must be:

- Specifically designed for that purpose, and
- Adequately braced where not encased in concrete

Forms must be designed to prevent excessive distortion of the structure during the jacking operation.

Jacks and vertical supports must be positioned in such a manner that the loads do not exceed the rated capacity of the jacks.

The jacks or other lifting devices must be provided with mechanical dogs or other automatic holding devices to support the slip forms whenever failure of the power supply or lifting mechanisms occurs.

The form structure must be maintained within all design tolerances specified for plumpness during the jacking operation.

The predetermined safe rate of lift must not be exceeded.

All vertical slip forms must be provided with scaffolds or work platforms where employees are required to work or pass.

### **Removal of Formwork**

Forms and shores (except those used for slabs on grade and slip forms) must not be removed until it is determined that the concrete has gained sufficient strength to support its weight and superimposed loads. Such determination must be based on compliance with one of the following:

- Stipulated conditions in the plans and specifications for removal of forms and shores, and such conditions have been followed, or
- The concrete has been properly tested with an appropriate American Society for Testing and Materials (ASTM) standard test method designed to indicate the concrete compressive strength, and the test results indicate that the concrete has gained sufficient strength to support its weight and superimposed loads.

Re-shoring must not be removed until the concrete being supported has attained adequate strength to support its weight and all loads in place upon it.

## **Concrete and Masonry Construction (cont.)**

### **Precast Concrete**

Precast concrete wall units, structural framing, and tilt-up wall panels must be adequately supported to prevent overturning and to prevent collapse until permanent connections are completed.

Lifting inserts that are embedded or otherwise attached to tilt-up wall panels must be capable of supporting at least two times the maximum intended load applied or transmitted to them.

Lifting inserts for other precast members must be capable of supporting four times the load.

Only essential employees are permitted under precast concrete that is being lifted or tilted into position.

### **Lift-Slab Operations**

Lift-slab operations must be designed and planned by a registered professional engineer who has experience in lift-slab construction. Such plans and designs must be implemented by the employer and must include detailed instructions and sketches indicating the prescribed method of erection. The plans and designs must also include provisions for ensuring lateral stability of the building/structure during construction.

Jacking equipment must be capable of supporting at least two and one-half times the load being lifted during jacking operations and the equipment must not be overloaded.

For the purpose of this provision, jacking equipment includes any load bearing component that is used to carry out the lifting operation(s). Such equipment includes, but is not limited to, the following: threaded rods, lifting attachments, lifting nuts, hook-up collars, T-caps, shearheads, columns, and footings.

Only employees essential to the jacking operation are to be permitted in the building/structure while any jacking operation is taking place unless the building/structure has been reinforced sufficiently to ensure its integrity during erection. The phrase "reinforced sufficiently to ensure its integrity" used in this paragraph means that a registered professional engineer, independent of the engineer who designed and planned the lifting operation, has determined from the plans that if there is a loss of support at any jack location, that loss will be confined to that location and the structure as a whole will remain stable.

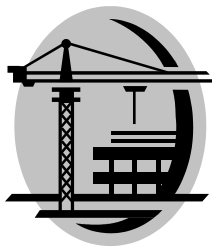
Under no circumstances must any employee who is not essential to the jacking operation be permitted immediately beneath a slab while it is being lifted.

## **Masonry Construction**

Masons will be trained as a minimum in the same areas mentioned in the preceding section "Training".

Whenever a masonry wall is being constructed, employers must establish a limited access zone prior to the start of construction. The limited access zone must be as follows:

- Equal to the height of the wall to be constructed plus 4 feet, and shall run the entire length of the wall;
- Located on the side of the wall that will be un-scaffold
- Entry restricted to only employees actively engaged in constructing the wall
- Kept in place until the wall is adequately supported to prevent overturning and collapse unless the height of wall is more than eight feet (8') and unsupported; in which case, it must be braced. The bracing must remain in place until permanent supporting elements of the structure are in place.



## CRANE OPERATIONS AND MATERIAL LIFTING

### Purpose

Moving large, heavy loads is crucial to today's manufacturing and construction industries. Much technology has been developed for these operations, including careful training and extensive workplace precautions. There are significant safety issues to be considered, both for the operators of the diverse "lifting" devices, and for workers in proximity to them.

The purpose of this program is to establish consistent requirements for all Clancy & Theys' crane operations. This policy includes pre-construction lift procedures, pre-lift requirements for all loads and critical lift requirements, and all necessary required documentation.

### Responsibility

It will be the responsibility of the crane operator to ensure that the crane is mechanically sound to safely perform its task at hand. The crane operator also has the responsibility of ensuring that the crane's limitations are not exceeded according to the manufacturer's recommendations. It will also be the responsibility of the crane operator to attend any pre-lift meeting(s) and possibly call the meetings if the project expeditor does not do so. The crane operator has full authority to reject lifting a load if he has substantial reason that it will endanger life or property.

It is the responsibility of the rigger to ensure the load is secured before allowing the crane operator to lift the object(s). It will also be the responsibility of the rigger to warn unnecessary persons if they are in an unsafe area of the erection operation. The rigger will also have the responsibility to inspect all slings, chokers, etc. daily or before initial use.

On most projects, cranes are a subcontract service to Clancy & Theys. When this service is under subcontract, the crane operator and/or subcontractor supervisor will be responsible for the direction of all lifts. ***Clancy & Theys will not direct lifting, rigging, signaling or any other crane related operations. It shall be the sole responsibility of the crane foremen or operator to direct operations associated with their scope of work. This responsibility will be the same for any other similar situations regardless of the person requesting.***

### Training

All operators, riggers, and signalmen will be trained in accordance with the OSHA and ANSI standards. These persons will be trained by qualified persons prior to working in these positions.

All persons working around cranes and hoisting equipment will be trained in but not limited to the following:

- Overhead Hazards
- Falling objects and Struck By hazards

### General Safety Requirements

- Clancy & Theys will comply with the manufacturer's specifications and limitations applicable to the operation of any and all cranes or derricks. Where the manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer

## **Crane Operations and Material Lifting (cont.)**

competent in this field and such determinations will be appropriately documented and recorded. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.

- Rated load capacities, recommended operating speeds, special hazard warnings, or instruction, shall be conspicuously posted on all equipment. Instructions or warnings shall be visible to operators while they are at their control stations.
- Hand signals to crane and derrick operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals will be posted at the job site.
- All employees shall be kept clear of loads about to be lifted and of suspended loads.
- Clancy & Theys shall designate a competent person(s) who shall inspect all machinery and equipment prior to each use and during use, to make sure it is in safe operating condition. Any deficiencies shall be repaired or defective parts replaced, before continued use.
- A thorough, annual inspection of the hoisting machinery shall be made by a Competent Person or by a government or private agency recognized by the U.S. Department of Labor. Clancy & Theys shall maintain a record of the dates and results of inspections for each hoisting machine and piece of equipment.
- Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating or other moving parts or equipment shall be guarded if such parts are exposed to contact by employees or otherwise create a hazard. Guarding shall meet the requirements of the American National Standards Institute B15.1-1958 Rev., *Safety Code for Mechanical Power Transmission Apparatus*.
- Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.
- All exhaust pipes shall be guarded or insulated in areas where contact by employees is possible in the performance of normal duties.
- Whenever internal combustion engine powered equipment exhausts in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.
- All windows in cabs shall be of safety glass or equivalent which introduces no visible distortion that will interfere with the safe operation of the machine.
- Where necessary for rigging or service requirements, a ladder or steps shall be provided to give access to a cab roof. Guardrails, handholds, and steps shall be provided on cranes for easy access to the car and cab, conforming to American National Standards Institute B30.5.
- Platforms and walkways shall have anti-skid surfaces.
- The OSHA 1926 Standard, Subpart R "Steel Erection" will apply to this program as applicable.

## **Crane Operations and Material Lifting (cont.)**

### **Wire rope**

#### **Wire rope shall be taken out of service when any of the following conditions exist:**

- In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay;
- Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;
- Evidence of any heat damage from any cause;
- Reductions:
  - from nominal diameter of more than one-sixty-fourth inch for diameters up to and including five-sixteenths inch
  - one-thirty-second inch for diameters three-eighths inch to and including one-half inch
  - three-sixty-fourths inch for diameters nine-sixteenths inch to and including three-fourths inch
  - one-sixteenth inch for diameters seven-eighths inch to 1 inches inclusive
  - three-thirty-seconds inch for diameters 1¼ to 1½ inches inclusive
- In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
- Wire rope safety factors shall be in accordance with American National Standards Institute B30.5-1968 or SAE J959-1966.

### **Fueling & Fire Prevention**

- Fuel tank filler pipe shall be located in such a position, or protected in such manner, as to not allow spill or overflow to run onto the engine, exhaust, or electrical equipment of any machine being fueled.
- An accessible fire extinguisher of 5BC rating or higher shall be available at all operator stations or cabs of equipment. Fire extinguishers shall be inspected in accordance with NFPA 10 Standards.
- All fuels shall be transported, stored, and handled to meet the OSHA Standards of Subpart F, *Fire Protection and Prevention*. When fuel is transported by vehicles on public highways, Department of Transportation rules contained in 49 CFR Parts 177 and 393 concerning such vehicular transportation are considered applicable.

### **Working Near Electrical Transmission Lines**

Equipment or machines shall be operated proximate to power lines only in accordance with the following:

- Except where electrical distribution and transmission lines have been de-energized and visibly grounded at the point of work, or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines,
- For lines rated 50 kV. or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet;
- For lines rated over 50 kV., minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1 kV. over 50 kV., or twice the length of the line insulator, but never less than 10 feet;

## **Crane Operations and Material Lifting (cont.)**

- In transit with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50 kV., and 10 feet for voltages over 50 kV., up to and including 345 kV., and 16 feet for voltages up to and including 750 kV.
- A person shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means;
- Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not alter the requirements of any other regulation of this part even if such device is required by law or regulation;
- Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded;
- Prior to work near transmitter towers where an electrical charge can be induced in the equipment or materials being handled, the transmitter shall be de-energized or tests shall be made to determine if electrical charge is induced on the crane. The following precautions shall be taken when necessary to dissipate induced voltages:
  - The equipment shall be provided with an electrical ground directly to the upper rotating structure supporting the boom; and
  - Ground jumper cables shall be attached to materials being handled by boom equipment when electrical charge is induced while working near energized transmitters. Crews shall be provided with nonconductive poles having large alligator clips or other similar protection to attach the ground cable to the load.
  - Combustible and flammable materials shall be removed from the immediate area prior to operations.

***THE ABOVE OPERATIONS SHALL ONLY BE PERFORMED BY A QUALIFIED ELECTRICIAN.***

### **Pre Lift Requirements**

Prior to lifting any load with any crane, the operator (Or Service Company) shall first ensure that the following criteria have been met:

- All crane inspections shall be conducted and up-to-date per OSHA regulations. The operator is responsible for conducting the daily and monthly inspections. The inspection shall also be up-to-date with any deficiencies noted.
- The OSHA 1926 Standard, Subpart R "Steel Erection" will apply to this program as applicable.
- Only qualified operators shall be allowed to operate any crane.
- The operator shall ensure that all loads are rigged properly. If there is any doubt to the way any load is rigged, the operator shall not make any lifts till he/she deems it a safe lift.
- The operator shall govern and verify the weight of all loads. This weight called, the "Net Load" is the weight of the object being lifted. It must be determined based on reliable information or engineering data or actually weighing the object in question.



## **Crane Operations and Material Lifting (cont.)**

- Prior to making a lift, the operator shall ensure that the signal person is knowledgeable and competent on crane signals. If the hand signals are used, they shall be those prescribed by ANSI B30.5. Whenever radios are used, try to use a dedicated channel or limit conversation not pertaining to the lift.

### **Crane Inspections**

#### *Daily Inspections*

Prior to any lift, the operator shall conduct a daily inspection. This inspection should be documented and records kept either on the crane or on the project. Any notations that show deficiencies should be corrected.

#### *Monthly Inspections*

Prior to any lift, the operator shall make sure that the monthly inspection is current to within thirty (30) days. A record of the inspection shall be kept either in the crane or on the project. If the crane is rented, you should check with the rental company and obtain such information.

#### *Annual Inspection*

A thorough, annual inspection of the hoisting machinery shall be made by a Competent Person, or by a government or private agency recognized by the U.S. Department of Labor. The employer shall maintain a record of the dates and results of inspections for each hoisting machine and piece of equipment.

#### *Crane operation condition check*

Prior to any lift, the operator shall warm up the crane and run it through all its functions. This includes booming, swinging, raising and lowering the ball or block and a test of all brakes and clutches. Extra time for warm-up may be needed in cases when moisture may have an effect on brakes and clutches (i.e. rain and dew). Whenever possible, again test all functions after just picking the load free.

### **Site Conditions**

#### *Weather*

Never attempt a critical lift (Crane exceeds 75% maximum load) if bad or severe weather is imminent. Wind must always be considered. OSHA requires that all crane operations be suspended if the wind velocity exceeds 30 MPH. A critical lift shall be postponed if the wind velocity exceeds 20 MPH. Wind can cause a dynamic loading on the crane. Moisture from dew or rain must be dried from brakes prior to crane operations each day.

#### *Area clear of Personnel*

No personnel shall be allowed in the area during a critical lift unless they have a specific responsibility. Never allow a load to pass over personnel if at all possible.

#### *Location of adjacent structures/objects considered*

The pre-lift meeting shall include a survey of the area to ensure everything possible is being done to avoid obstructions. Never shall the crane, boom or load come any closer than 10 feet from a power line rated 50KV or less. For lines greater than 50KV, a distance of one half inch per IKV shall be added to the

## **Crane Operations and Material Lifting (cont.)**

distance. However, try to avoid operating in the vicinity of any overhead power lines altogether. Other hazards within the vicinity of the lift must be considered and specific plans made based on their presence. Contact the Safety Department if assistance is needed in these situations.

### *Underground installations/utilities*

Always consider what may be buried underground such as pipes, lines, vaults, etc. This includes the area where the crane is sitting and where the load will be placed.

## **Hoisting**

### *Lift radius*

Prior to the lift, determine the radius necessary to place the load properly. If the load is to be lowered into an excavation, the boom angle should be set for the proper radius prior to swinging the load over the excavation. Also, whenever possible use the power down function to lower the load.

### *Minimum allowable angle for the load*

Once the required radius is determined, the boom angle shall be noted. With this information, the operator will know what angle cannot be exceeded to avoid exceeding the required radius.

### *Maximum allowable radius for the load*

The maximum allowable radius can be obtained from the load chart. This radius is never to be exceeded with this load.

### *Load centered properly*

The load shall be positioned directly below the boom tip before the load is lifted. This may be checked by freely hanging the hook directly above the center of gravity of the load. Remember the boom will tend to lower slightly as the load is lifted so this must be corrected for as the load is being picked free.

### *Choosing the radius*

The exact radius at which you must work may not appear on the crane lift chart. In this case, use the next higher radius on the chart and the corresponding capacity at that radius is the maximum allowable for your lift.

## **Slings**

*This section applies to slings used in conjunction with other material handling equipment for the movement of material by hoisting. The types of slings covered are those made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope (conventional three strand construction), and synthetic web (nylon, polyester, and polypropylene).*

### *Lifting & Hoisting Material*

There are good practices to follow to protect your self while using slings to move materials.

1. First, learn as much as you can about the materials with which you will be working. Slings come in many different types, one of which is right for your purpose.

## **Crane Operations and Material Lifting (cont.)**

2. Second, analyze the load to be moved In terms of size, weight, shape, temperature, and sensitivity then choose the sling which best meets those needs.
3. Third, always inspect all the equipment before and after a move and always be sure to give equipment any "in service" maintenance it may need.
4. Fourth, use safe-lifting practices. Use the proper lifting technique for the type of sling and the type of load.

By following the above guidelines to proper sling use and maintenance, and by the avoidance of kinking, it is possible to greatly extend a wire rope sling's useful service life.

### *Operating Practices for Slings*

When any sling is used, the following practices shall be observed:

#### General Practices

- Slings that are damaged or defective shall not be used.
- Slings shall not be shortened with knots or bolts or other makeshift devices.
- Sling legs shall not be kinked.
- Slings shall not be loaded in excess of their rated capacities.
- Slings used in a basket hitch shall have the loads balanced to prevent slippage.
- Slings shall be securely attached to their loads.
- Slings shall be padded or protected from the sharp edges of their loads.
- Suspended loads shall be kept clear of all obstructions.
- All employees shall be kept clear of loads about to be lifted and of already suspended loads.
- Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
- Shock loading is prohibited.
- A sling shall not be pulled from under a load when the load is resting on the sling.

#### Inspections

- Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use where service conditions warrant.
- Damaged or defective slings shall be immediately removed from service.

### *Alloy Steel Chain Slings*

#### Sling Identification

- Alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity and reach.

#### Sling Use

- Alloy steel chain slings shall not be used with loads in excess of the rated capacities prescribed in Table N184-1 of § 1910.184. Slings not included in this table shall be used only in accordance with the manufacturer's recommendations.

## **Crane Operations and Material Lifting (cont.)**

### **Safe Operating Temperatures**

- Alloy steel chain slings shall be permanently removed from service if they are heated above 1000° F. When exposed to service temperatures in excess of 600° F, maximum working load limits permitted in Table N- 184-1 of the OSHA Standards - § 1910.184 shall be reduced in accordance with the chain or sling manufacturer's recommendations.

### **Repairing Slings**

- Worn or damaged alloy steel chain slings or attachments shall not be used until repaired.

### **Effect of Wear**

- If the chain size at any point of any link is less than that stated in Table N- 184-2 of the OSHA Standards - § 1910.184, the sling shall be removed from service.
- Alloy steel chain slings with cracked or deformed master links, coupling links or other components shall be removed from service.

### **Wire Rope Slings**

#### **Sling Use**

- Wire rope slings shall not be used with loads in excess of the rated capacities shown in Tables N- 184-3 through N- 184-14 of § 1910.184. Slings not included in these tables shall be used only in accordance with the manufacturer's recommendations.

#### **Safe Operating Temperatures**

- Fiber core wire rope slings of all grades shall be permanently removed from service if they are exposed to temperatures in excess of 200° F. When non-fiber core wire rope slings of any grade are used at temperatures above 400° F or below minus 60° F, recommendations of the sling manufacturer regarding use at that temperature shall be followed.

#### **Removal from Service**

Wire rope slings shall be immediately removed from service if any of the following conditions are present:

- Ten randomly distributed broken wires in one rope lay, or five broken wires in one strand in one rope lay
- Wear or scraping of one-third the original diameter of outside individual wires
- Kinking, crushing, bird caging or any other damage evidence of heat damage
- End attachments that are cracked, deformed or worn
- Hooks that have been opened more than 15 percent of the normal throat opening measured at the narrowest point or twisted more than 10 degrees from the plane of the unbent hook
- Corrosion of the rope or end attachments.

### **Synthetic Web Slings**

#### **Sling Identification**

- Each sling shall be marked or coded to show the rated capacities for each type of hitch and type of synthetic web material.

#### **Sling Use**

- Synthetic web slings illustrated in Figure N- 18-6 shall not be used with loads in excess of the rated capacities specified in Tables N184-20 through N- 184-22 of the OSHA Standards - § 1910.184.

## **Crane Operations and Material Lifting (cont.)**

Slings not included in these tables shall be used only in accordance with the manufacturer's recommendations.

### **Environmental Conditions**

When synthetic web slings are used, the following precautions shall be taken:

- Nylon web slings shall not be used where fumes, vapors, sprays, mists or liquids of acids or phenolics are present.
- Polyester and polypropylene web slings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.
- Web slings with aluminum fittings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

### **Safe Operating Temperatures**

- Synthetic web slings of polyester and nylon shall not be used at temperatures in excess of 180°F.
- Polypropylene web slings shall not be used at temperatures in excess of 200°F.
- Synthetic web slings that are repaired shall not be used unless repaired by a sling manufacturer or an equivalent entity.

### **Removal from Service**

- Synthetic web slings shall be immediately removed from service if any of the following conditions are present:
  - Acid or caustic burns
  - Melting or charring of any part of the sling surface
  - Snags, punctures, tears, or cuts
  - Broken or worn stitches
  - Distortion of fittings



## DEMOLITION OPERATIONS

### **Preparatory Operations**

Before the start of every demolition job, the demolition contractor should take a number of steps to safeguard the health and safety of workers at the job site. These preparatory operations involve the overall planning of the demolition job, including methods to be used to bring the structure down, equipment necessary to do the job, and measures to be taken to perform the work safely. Planning for a demolition job is as important as actually doing the work. Therefore, a competent person experienced in all phases of the demolition work to be performed should perform all planning work.

**"No employee shall be permitted in any area that can be adversely affected when demolition operations are being performed. Only those employees necessary for the performance of the operations shall be permitted in these areas."**

### **Training**

On a normal basis, all major building demolition is performed by a qualified subcontractor that specializes in this field of work. Clancy & Theys requires these subcontractors to provide well-trained, competent personnel.

Minor demolition operations may be performed by our in house work force. In this case, Clancy & Theys will insure that its employees receive training in the following areas, but not limited these areas:

- Demolition hazards and protection methods
- Encountering hazardous materials (such as asbestos or lead)
- Personal protective equipment
- Proper and safety operation of demolition tools and equipment

### **Engineering Survey**

Prior to starting all demolition operations, OSHA Standard 1926.850(a) requires that a competent person conduct an engineering survey of the structure. The purpose of this survey is to determine the condition of the framing, floors, and walls so that necessary measures can be taken to prevent the premature collapse of any portion of the structure. When indicated as advisable, any adjacent structure(s) or improvements should also be similarly checked. The demolition contractor must maintain a written copy of this survey. Photographing existing damage in neighboring structures is also advisable.

The engineering survey provides the demolition contractor with the opportunity to evaluate the job in its entirety. The contractor should plan for the wrecking of the structure, the equipment to do the work, manpower requirements, and the protection of the public. The safety of all workers on the job site should be a prime consideration. During the preparation of the engineering survey, the contractor should plan for potential hazards such as fire, cave-ins, and injuries.

If the structure to be demolished has been damaged by fire, flood, explosion, or some other cause, appropriate measures, including bracing and shoring of walls and floors, shall be taken to protect workers and any adjacent structures. It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable material, or similar dangerous substances have been used or stored on the site. If the nature of a substance cannot be easily determined, samples should be taken and analyzed by a qualified person prior to demolition.

## **Demolition Operations (cont.)**

### Engineering Survey – Continued

During the planning stage of the job, all safety equipment needs should be determined. The required number and type of respirators, lifelines, warning signs, safety nets, special face and eye protection, hearing protection, and other worker protection devices should be determined during the preparation of the engineering survey. A comprehensive plan is necessary for any confined space entry.

### **Utility Location**

One of the most important elements of the pre-job planning is the location of all utility services. All electric, gas, water, steam, sewer, and other service lines should be shut off, capped, or otherwise controlled at or outside the building before demolition work is started. In each case, any utility company which is involved should be notified in advance and approval or any necessary services shall be obtained.

If it is necessary to maintain any power, water, or other utilities during demolition, such lines shall be temporarily relocated as necessary and/or protected. The location of all overhead power sources should also be determined, as they can prove especially hazardous during any machine demolition. All workers should be informed of the location of any existing or relocated utility service.

### **Medical Services and First Aid**

Prior to starting work, provisions should be made for prompt medical attention in case of serious injury. The nearest hospital, infirmary, clinic, or physician shall be located as part of the engineering survey. The job supervisor should be provided with instructions for the most direct route to these facilities. Proper equipment for prompt transportation of an injured worker, as well as a communication system to contact any necessary ambulance service, must be available at the job site. The telephone numbers of the hospitals, physicians, or ambulances shall be conspicuously posted.

In the absence of an infirmary, clinic, hospital, or physician that is reasonably accessible in terms of time and distance to the worksite, a person who has a valid certificate in first aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training should be available at the worksite to render first aid.

A properly stocked first aid kit, as determined by an occupational physician, must be available at the job site. The first aid kit should contain approved supplies in a weatherproof container with individual sealed packages for each type of item. It should also include rubber gloves to prevent the transfer of infectious diseases. Provisions should also be made to provide for quick drenching or flushing of the eyes should any person be working around corrosive materials. Eye flushing must be done with water containing no additives. The contents of the kit shall be checked before being sent out on each job and at least weekly to ensure the expended items are replaced.

### **Police and Fire Contact**

The telephone numbers of the local police, ambulance, and fire departments should be available at each job site. This information can prove useful to the job supervisor in the event of any traffic problems, such as the movement of equipment to the job, uncontrolled fires, or other police/fire matters. The police number may also be used to report any vandalism, unlawful entry to the job site, or accidents requiring police assistance.

## **Demolition Operations (cont.)**

### **Fire Prevention and Protection**

A "fire plan" should be set up prior to beginning a demolition job. This plan should outline the assignments of key personnel in the event of a fire and provide an evacuation plan for workers on the site.

#### **General rules in fire prevention planning:**

- All potential sources of ignition should be evaluated and the necessary corrective measures taken.
- Electrical wiring and equipment for providing light, heat, or power should be installed by a competent person and inspected regularly.
- Equipment powered by an internal combustion engine should be located so that the exhausts discharge well away from combustible materials and away from workers.
- When the exhausts are piped outside the building, a clearance of at least six inches should be maintained between such piping and combustible material.
- All internal combustion equipment should be shut down prior to refueling. Fuel for this equipment should be stored in a safe location.
- Sufficient fire fighting equipment should be located near any flammable or combustible liquid storage area.
- Only approved containers and portable tanks should be used for the storage and handling of flammable and combustible liquids.
- Heating devices should be situated so they are not likely to overturn and shall be installed in accordance with their listing, including clearance to combustible material or equipment. Temporary heating equipment, when utilized, should be maintained by competent personnel.
- Smoking should be prohibited at or in the vicinity of hazardous operations or materials. Where smoking is permitted, safe receptacles shall be provided for smoking materials.
- Roadways between and around combustible storage piles should be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other materials.
- When storing debris or combustible material inside a structure, such storage shall not obstruct or adversely affect the means of exit.
- A suitable location at the job site should be designated and provided with plans, emergency information, and equipment, as needed. Access for heavy fire fighting equipment should be provided on the immediate job site at the start of the job and maintained until the job is completed.
- Free access from the street to fire hydrants and to outside connections for standpipes, sprinklers, or other fire extinguishing equipment, whether permanent or temporary, should be provided and maintained at all times.
- Pedestrian walkways should not be so constructed as to impede access to hydrants.
- No material or construction should interfere with access to hydrants, Siamese connections, or fire extinguishing equipment.
- A temporary or permanent water supply of sufficient volume, duration, and pressure, required to properly operate the fire fighting equipment, should be made available.
- Standpipes with outlets should be provided on large multistory buildings to provide for fire protection on upper levels. If the water pressure is insufficient, a pump should also be provided.
- An ample number of fully charged portable fire extinguishers should be provided throughout the operation. All motor driven mobile equipment should be equipped with an approved fire extinguisher.
- An alarm system, e.g., telephone system, siren, two-way radio, etc., shall be established in such a way that employees on the site and the local fire department can be alerted in case of an emergency. The alarm code and reporting instructions shall be conspicuously posted and the alarm system should be serviceable at the job-site during the demolition. Fire cut offs shall be retained in the buildings undergoing alterations or demolition until operations necessitate their removal.



## **Demolition Operations (cont.)**

### **Special Structures Demolition**

#### Safe Work Practices When Demolishing a Chimney, Stack, Silo, or Cooling Tower

##### **Inspection and Planning**

When preparing to demolish any chimney, stack, silo, or cooling tower, the first step must be a careful, detailed inspection of the structure by an experienced person. If possible, architectural/engineering drawings should be consulted. Particular attention should be paid to the condition of the chimney or stack. Workers should be on the lookout for any structural defects such as weak or acid-laden mortar joints, and any cracks or openings. The interior brickwork in some sections of industrial chimney shafts can be extremely weak. If the stack has been banded with steel straps, these bands shall be removed only as the work progresses from the top down. Sectioning of the chimney by water, etc. should be considered.

##### **Safe Work Practice**

- When hand demolition is required, it should be carried out from a working platform.
- Experienced personnel must install a self-supporting tubular scaffold, suspended platform, or knee-braced scaffolding around the chimney.
- Particular attention should be paid to the design, support, and tie-in (braces) of the scaffold.
- A competent person should be present at all times during the erection of the scaffold.
- It is essential that there be adequate working clearance between the chimney and the work platform.
- Access to the top of the scaffold should be provided by means of portable walkways.
- The platforms should be decked solid and the area from the work platform to wall bridged with a minimum of 2-inch thick lumber.
- A back rail 42 inches above the platform with a midrail covered with canvas or mesh should be installed around the perimeter of the platform to prevent injury to workers below. Debris netting may be installed below the work platform.
- Excess canvas or plywood attachments can form a wind sail that could cause collapse of the scaffold.
- When working on the work platform, all personnel should wear hard hats, long sleeve shirts, eye/face protection, such as goggles and face shields, respirators and safety belts, as required.
- Care should be taken that the proper number of workers are assigned to the task.
- Too many people on a small work platform can lead to accidents.
- An alternative to the erection of a self-supporting tubular steel scaffold is to "climb" the structure with a creeping bracket scaffold. Careful inspection of the masonry and a decision as to the safety of this alternative must be made by a competent person. It is essential that the masonry of the chimney be in good enough condition to support the bracket scaffold.
- The area around the chimney should be roped off or barricaded and secured with appropriate warning signs posted. No unauthorized entry should be permitted to this area. It's also good practice to keep a worker, i.e. a supervisor, operating engineer, another worker, or a "safety person", on the ground with a form of communication to the workers above.
- Special attention should be paid to weather conditions when working on a chimney. No work should be done during inclement weather such as during lightning or high wind situations. The worksite should be wetted down, as needed, to control dust.

## **Demolition Operations (cont.)**

### **Debris Clearance**

If debris is dropped inside the shaft, it can be removed through an opening in the chimney at grade level. The opening at grade must be kept relatively small in order not to weaken the structure. If a larger opening is desired, a professional engineer should be consulted.

When removing debris by hand, an overhead canopy of adequate strength should be provided.

If machines are used for removal of debris, proper overhead protection for the operator should be used. Excessive debris should not be allowed to accumulate inside or outside the shaft of the chimney as the excess weight of the debris can impose pressure on the wall of the structure and might cause the shaft to collapse.

The foreman should determine when debris is to be removed, halt all demolition during debris removal, and make sure the area is clear of clean-up workers before continuing demolition.

### **Demolition by Deliberate Collapse**

Another method of demolishing a chimney or stack is by deliberate collapse. Deliberate collapse requires extensive planning and experienced personnel, and should be used only when conditions are favorable.

There must be a clear space for the fall of the structure of at least 45 degrees on each side of the intended fall line and 1½ times the total height of the chimney. Considerable vibration may be set up when the chimney falls, so there should be no sewers or underground services on the line of the fall. Lookouts must be posted on the site and warning signals must be arranged. The public and other workers at the job site must be kept well back from the fall area.

The use of explosives is one way of setting off deliberate collapse. This type of demolition should only be undertaken by qualified persons. The entire work area shall be cleared of nonessential personnel before any explosives are placed. Though the use of explosives is a convenient method of bringing down a chimney or stack, there is a considerable amount of vibration produced, and caution should be taken if there is any likelihood of damage.

### **Demolition of Pre-Stressed Concrete Structures**

The different forms of construction used in a number of more or less conventional structures built during the last few decades will give rise to a variety of problems when the time comes for them to be demolished. Pre-stressed concrete structures fall in this general category. The most important aspect of demolishing a pre-stressed concrete structure takes place during the engineering survey. During the survey, a qualified person should determine if the structure to be demolished contains any pre-stressed members.

It is the responsibility of the demolition contractor to inform all workers on the demolition job site of the presence of pre-stressed concrete members within the structure. They should also instruct them in the safe work practice which must be followed to safely perform the demolition. Workers should be informed of the hazards of deviating from the prescribed procedures and the importance of following their supervisor's instruction.

## **Demolition Operations (cont.)**

### **Categories of Pre-Stressed Construction**

There are four main categories of pre-stressed members. The category, or categories, should be determined before attempting demolition, bearing in mind that any pre-stressed structure may contain elements of more than one category.

- **Category 1.** Members pre-stressed before the application of the superimposed loads and having all cables or tendons fully bonded to the concrete or grouted within ducts.
- **Category 2.** As Category 1, but having the tendons left un-grouted. This type of construction can sometimes be recognized from the access points which may have been provided for inspection of the cables and anchors. More recently, unbonded tendons have been used in the construction of beams, slabs, and other member. These tendons are protected by grease and surrounded by plastic sheathing instead of the usual metal duct.
- **Category 3.** Members that are pre-stressed progressively as the building construction proceeds and the dead load increases, using bonded tendons, as Category 1.
- **Category 4.** As category 3, but using unbonded tendons, as Category 2. Examples of construction using members of Categories 3 or 4 are relatively rare up to this time. However, they may be found, for example, in the podium of a tall building or some types of bridges. They require that particular care be taken in demolition.

### **Pre-tensioned Members**

These usually do not have any end anchors, the wires being embedded or bonded within the length of the member. Simple pre-tensioned beams and slabs of spans up to about 7 meters (23') can be demolished in a manner similar to ordinary reinforced concrete. Pre-tensioned beams and slabs may be lifted and lowered to the ground as complete units after the removal of any composite concrete covering to tops and ends of the units. To facilitate breaking up, the members should be turned on their sides. Lifting from the structure should generally be done from points near the ends of the units or from lifting point positions. Reuse of lifting eyes, if in good condition, is recommended whenever possible. When units are too large to be removed, consideration should be given to temporary supporting arrangements.

### **Pre-Cast Units Stressed Separately From the Main Frames of the Structure, with End Anchors and Grouted and Un-grouted Ducts**

Before breaking up, units of this type should be lowered to the ground, if possible. It is advisable to seek the counsel of a professional engineer before carrying out this work, especially where there are ungrouted tendons. In general, this is true because grouting is not always 100 percent efficient. After lowering, the units can be turned on their side with the ends up on blocks after any composite concrete is removed. This may suffice to break the unit and release the pre-stress. If not, a sand bag screen, timbers, or a blast mat as a screen should be erected around the ends and demolition commenced, taking care to clear the area of any personnel. It should be borne in mind that the end blocks may be heavily reinforced and difficult to break up.

## **Demolition Operations (cont.)**

### **Monolithic Structures**

The advice of the professional engineer experienced in pre-stressed work should be sought before any attempt is made to expose the tendons or anchorages of structures in which two or more members have been stressed together. It will usually be necessary for temporary supports to be provided so the tendons and the anchorage can be cautiously exposed. In these circumstances, it is essential that indiscriminate attempts to expose and de-stress the tendons and anchorages are not made.

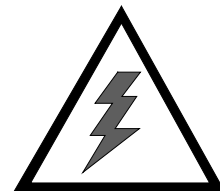
### **Progressively Pre-Stressed Structures**

In the case of progressively pre-stressed structures, it is essential to obtain the advice of a professional engineer, and to demolish the structure in strict accordance with the engineer's method of demolition. The stored energy in this type of structure is large. In some cases, the inherent properties of the stressed section may delay failure for some time, but the presence of these large pre-stressing forces may cause sudden and complete collapse with little warning.

## **Safe Work Practices When Working in Confined Spaces**

Demolition contractors often come in contact with confined spaces when demolishing structure at industrial sites. These confined spaces can be generally categorized in two major groups: those with open tops and a depth that restricts the natural movement of air, and enclosed spaces with very limited openings for entry. Examples of these spaces include storage tanks, vessels, degreasers, pits vaults, casing, and silos.

The hazards encountered when entering and working in confined spaces are capable of causing bodily injury, illness, and death. Accidents occur among workers because of failure to recognize that a confined space is a potential hazard. It should therefore be considered that the most unfavorable situation exists in every case and that the danger of explosion, poisoning, and asphyxiation will be present at the onset of entry.



## **ELECTRICAL SAFETY PROGRAM**

### **Purpose of the Electrical Safety Program**

The purpose of this program is to heighten awareness when it comes to ELECTRICAL SAFETY at Clancy & Theys. Electricity is used daily in our lives yet under normal use we may never see the electrical current itself. Because of the invisibility, abundance, and daily use of electricity we become relaxed when working with or around current. This is when someone gets shocked, burned and often killed. Electricity is also a common cause of fires in the workplace due to its misuse, faulty wiring, or failure to protect and isolate electricity with “Lock-out / Tag-out”

Electrical installations made in accordance with the National Electrical Code are considered to be in compliance with OSHA's electrical standards for construction

Clancy & Theys is committed to safe conditions for our employees while working with electricity throughout the company. This policy will cover the responsibilities, procedures, and training requirements for all of the employees of Clancy & Theys.

### **Protection of Personnel**

- Electrical work shall only be performed by a qualified person. No employee of Clancy & Theys is to perform electrical work unless they are qualified in such electrical activities.
- Clancy & Theys will utilize GFCI "Ground Fault Circuit Interrupters" during all phases of construction. This will apply to all types of construction and related activities.
- Protection shall be provided against accidental shock from live electrical parts such as circuit breaker panels, and motor control equipment by suitable insulation of the floor area, physical guarding of live parts, and proper grounding according to the National Electrical Code and applicable OSHA standards including “Lock-out / Tag-out” procedures.
- All electrical equipment should be periodically inspected. Such inspections should be made by qualified workers at intervals according to the equipment used and the severity of conditions to which the equipment is subjected.
- To maintain electrical equipment in proper condition, all necessary repairs should be made by qualified workers.
- Personal Protective Equipment will be worn, as deemed necessary by the supervisor, to protect employees when working with or around electricity.

### **Responsibilities**

The supervisor must ensure that employees follow safe work practices. Supervisors are responsible for ensuring that only qualified persons perform electrical wiring and testing.

Employees are responsible for following the safe work practices included in this policy along with OSHA regulations and the NEC “National Electric Code”.

## **Electrical (cont.)**

### **Training \***

Clancy & Theys will provide training for all employees exposed to electrical hazards. This program will enable workers to recognize hazards related to electricity and its use.

Clancy & Theys shall ensure that each worker exposed to electrical hazards is trained by a qualified person, in the following areas:

- The nature of electrical hazards in the work place
- Use of GFCI's "Ground Fault Circuit Interrupters"
- Proper selection of electrical cords, tools and equipment
- Inspection of electrical cords, tools and equipment
- The use of barriers or other forms of guarding live parts
- Minimum distance clearances from potentially energized parts
- Lockout / Tagout procedures
- Any necessary Personal Protective Equipment

*\* **WARNING:** ELECTRICAL WIRING AND TESTING SHALL ONLY BE PERFORMED BY A QUALIFIED PERSON, WHO IS TRAINED IN THE SPECIFIC SKILLS REQUIRED FOR THE WIRING TASK AT HAND. Unqualified persons performing electrical wiring and testing are subject to disciplinary action including and up to termination of employment.*

In addition, retraining shall be provided for workers as deemed necessary by their supervisor. All training shall be documented as to its subject, date, instructor, and student signature.

### **Inspections**

This procedure is intended to establish a program to assure a thorough inspection of all small portable electric hand tools, temporary lighting, electrically powered shop equipment, extension cords, and all other temporary electrical circuits. This procedure is also intended to comply with OSHA regulation 1926.400(h).

- One or more competent individuals will be designated as inspectors to test equipment on each jobsite, shop, warehouse, or other work location(s).
- Inspectors will identify existing and predictable hazards in tools, cords, and other pieces of electrical equipment. They will also have the authority to take prompt, corrective measures to eliminate problems found. Any problem equipment that cannot be repaired immediately must be removed from service and tagged "Defective -Do Not Use" until repairs are made.
- Inspectors shall conduct and document these tests and inspections on a regularly scheduled basis.
- Before each use, each employee using a piece of electrical equipment must perform a visual inspection of the cord set, attachment cap, plug, and receptacles which are fixed in place and not exposed to damage. Workers should check for deformed or missing conductor and ground pins, insulation damage, and indications of possible internal damage. Damaged equipment will be tagged and removed from service immediately.
- The subject of employee responsibility for daily inspection will be included in new employee safety orientations and mentioned at the toolbox safety meetings.
- Clancy & Theys shall neither make available nor permit any employee to use any equipment found to have the potential to cause an injury.

## **Electrical (cont.)**

### **Testing**

A Competent Person on a weekly basis will test all GFCIs which are being used by Clancy & Theys Conditioner employees. This shall be done by introducing a ground fault into the circuit using a commercially available GFCI tester. A record of testing shall be kept identifying the date of testing, location of testing, the identification of the GFCI, and person performing the test. If any GFCI is found to be faulty it shall be tagged-out “Do Not Use”, until repaired.

### **General Safety Practices**

#### **Power Extension Cord Sets**

Only 12 gauge 3 wire cords are to be used meeting the following requirements:

- Junior hard-service cord (type SJ, SJO, SJTO, or SJT) may be used for portable cords both indoor and outdoor. If conditions are extreme, such as rocky ground or extended exposure to moisture, use hard-service cord (type 5, SO, STO, ST).
- Never allow vehicle traffic to run over electrical wires.
- Use type SO cable or its equivalent in all electrical wiring in shafts or tunnels.
- Nonmetallic-sheathed cable (type NM) is designed for use indoors and should not be exposed to moisture.
- Two-conductor Number 12 Stranded (rubber or thermoplastic) cord is recommended for festoon lighting when sockets are attached to a flexible cable.
- Worn or frayed electrical cords or cables must not be used. Extension cords must not be fastened with staples, hung from nails, or suspended by wire.
- Flexible cords must be connected to devices and fittings so that strain relief is provided which will prevent pull from being directly transmitted to joints or terminal screws.

#### **Illumination for Temporary Installations**

- Temporary lighting systems that are installed on construction sites should provide adequate illumination for safe working conditions. Special attention should be given to illumination for stairways, ladders, access ways, basements, and other locations where warranted.
- All temporary illumination shall be a minimum of 8 feet above the working surface unless the bulbs are protected from accidental breakage.
- Combustible materials shall be kept clear from all temporary lighting systems. Special precautions shall be taken during bulb replacement to prevent burns and electrocution.
- Temporary lighting circuits should not be used for any other purpose.
- Use portable lamp holders consisting of a rubber or plastic insulated handle and lamp cage with all wiring connections and socket parts enclosed for extension lights.

### **Electrical Work Practices**

Supervisors must not allow employee(s) to work near live parts of electrical circuits, unless they are protected by one of the following means:

- De-energizing and grounding the parts
- Guarding the part by insulation
- Any other effective means
- A utility locator service must be contacted before any type of excavation begins.
- In work areas where the exact location of underground electrical power lines is unknown, employees using jack hammers, bars, or other hand tools that may contact the lines must be protected by insulating gloves, aprons, or other protective clothing that will provide equivalent electrical protection.

### **Electrical (cont.)**

- Barriers or other means of guarding must be used to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of equipment are exposed.
- Equipment or circuits that are de-energized must be rendered inoperative and must have tags attached at all points where the equipment or circuits could be energized.
- “Lock-out / Tag-out” procedures will be followed when working on electrical systems.

### **Clearances from Above Ground Electrical Lines**

All employees of Clancy & Theys shall maintain a distance of no less than 10 feet from any overhead electrical transmission line. All lines shall be considered energized unless the power is disconnected by the Utility Company and clearly grounded.



## EMPLOYEE ASSISTANCE PROGRAM



Clancy & Theys recognizes that a wide range of personal problems can affect an employee's job performance. Examples of such personal problems include alcohol and/or drug abuse, marital or family distress, or other problems that cause emotional instability. These problems may result in deterioration of job efficiency. In most instances, the employee will overcome such personal problems independently and the effect on job performance will be negligible. In some instances, normal supervisory assistance will serve either as motivation or guidance by which such problems can be resolved so the employee's job performance will return to an acceptable level. In some cases, however, neither the efforts of the employee or supervisor have the desired effect on resolving the employee's problems and unsatisfactory performance persists over a period of time, either consistently or intermittently.

The intent of the Employee Assistance Program is to help the employee to overcome the problem and to restore that employee to full efficiency. The program is designed to identify the problem at the earliest possible stage, motivate the employee to seek help, and to direct the employee to appropriate assistance.

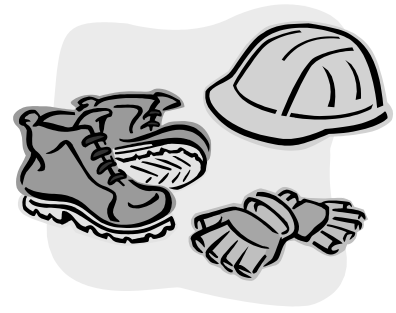
Clancy & Theys believes it is in the interest of the employee, the employee's family and the company to provide a service that deals with such persistent problems. For the Employee Assistance Program to be successful, the following must be implemented:

1. Personal problems that affect work performance and attendance are legitimate concerns of management. Management recognizes that these problems can be successfully treated provided they are identified early and referral is made to the appropriate resource.
2. Personal problems requiring assistance include alcohol abuse, drug abuse, marital or family distress, or other problems that cause emotional distress.
3. The purpose of the Employee Assistance Program is to assure employees that, if personal problems are the cause of unsatisfactory job performance, they will receive an offer of assistance to help resolve such problems in an effective and confidential manner.
4. No employee will have his or her job security or promotional opportunities jeopardized because of participation in the program.
5. Strict confidentiality is essential and will be maintained.
6. Employees are encouraged to use the Employee Assistance Program voluntarily when they need professional help or guidance.
7. If an employee has not sought help independently for a personal problem, it will be the responsibility of the supervisor and/or department manager to follow a procedure that will ensure that no employee with an identified personal problem will fail to have the benefit of assessment and referral.
8. Any expenses incurred in seeking assistance, beyond that which is covered by medical insurance, will be the responsibility of the employee.

### **Employee Assistance Program (cont.)**

9. It is the employee's responsibility to cooperate in the designated treatment or rehabilitation plan. After a reasonable opportunity for progress, normal disciplinary procedure, up to and including job dismissal, will apply unless there is noticeable improvement in job performance.
10. The program is also available to the immediate family members of our employees.
11. Time off for participating in the Employee Assistance Program will be granted in accordance with the existing policy on leave for doctor appointments.
12. Implementation of this policy will not require or result in any special regulations, privileges or exemptions from the standard personnel policies applicable to job performance.

## **EQUIPMENT & SUPPLIES PURCHASING POLICY**



In order to assure continuity in the equipment that our workers are using, all safety related equipment shall be purchased through the Clancy & Theys Raleigh Office. This process will also allow greater buying power which contributes to a considerable cost savings.

Equipment can be obtained by faxing or e-mailing your request to Clancy & Theys' Corporate Safety Director.

Contact Information:  
Lyle Gurley, Safety Director  
919-834-3601 x239  
919-382-8399 Fax  
lylegurley@clancytheys.com

The following information shall be provided with the request: (See form)

- Name of the person requesting equipment
- Phone Number
- Project # AND Task # or a GL#
- Shipping address
- Quantity of material

Following is a list of equipment that shall be purchased through the C&T Raleigh Office:

- Hard Hats – Cap Style, White with logo (C&T Employees)
- Hard Hats – Full Brim, White with logo (C&T Supervisors & PM's)
- Hard Hats – Cap Style, Yellow without logo (Visitors & Vendors)
- Safety Glasses, Goggles & Face Shields
- Gloves
- Respirators (NIOSH N95 Particulate Mask)
- Respirators (All other) (See Respiratory Program for Special Requirements)
- Hearing Protection
- Fall Protection Equipment
- Fire Extinguishers
- First Aid Cabinets and Supply Services
- Barricade Tape
- Safety Signage
- Rebar Caps
- Corporate Safety Manual
- Employee Safety Handbooks
- MSDS Books

# Safety Equipment Order Form



Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Project Name: \_\_\_\_\_ #: \_\_\_\_\_

Ordered by: \_\_\_\_\_ Task # or GL # \_\_\_\_\_ \*

Name - Printed

Shipping Address: \_\_\_\_\_

Street Number & Name

City

State

Zip Code

Qty	Description	Unit Price	Total Price

\* A separate PO must be used if orders will be charged to both a Job/Task and a GL #

## Office Use Only

PO # \_\_\_\_\_ Date Ordered \_\_\_\_\_

Est. Ship Date: \_\_\_\_\_ ☐ All Items Received ☐ Items Remaining on Backorder



## **EXCAVATION – TRENCHING and SHORING PROGRAM**

### **General**

Many on-the-job accidents can be eliminated by initial planning. Correcting mistakes in shoring and/or sloping after work has begun slows down the operation, adds to the cost, and increases the possibility of an excavation failure.

Due to the extreme hazard potential and strict regulations, prior to commencing excavation operations everyone involved with the project should become thoroughly familiar with OSHA's Excavation Standards, this safety program, and have a competent person available.

The following site conditions should be taken into account when planning excavations on our projects:

- Traffic, both on and off road
- Nearness of structures and their conditions
- Soil
- Surface and ground water
- The area water table
- Overhead and underground utilities
- Current and pending weather conditions

These and other conditions can be determined by jobsite studies, observations, test boring for soil type or conditions, and consultations with local officials and utility companies.

Before any excavation actually begins, Clancy & Theys, or the responsible subcontractor, will determine the estimated location of utility installations. The contractor should ask the utility companies and/or the owners to find exact location of the underground installations. The contractor should be certain to comply with any applicable legal requirements to notify a centralized agency, such as "NOCUTS" or similar program, before commencing excavation. To find the exact location of underground installations, workers should use safe and acceptable means. If underground installations are discovered, they should be removed, protected or properly supported.

### **Training**

#### **Competent Person**

Select personnel, including the project superintendent, will be trained as "Competent Persons."

Competent Persons shall receive training in the following:

- Hazards associated with trenching and excavation
- Inspection procedures
- Underground utilities and water accumulation
- Soil classification
- Cave-in prevention, protection methods and protection equipment options/selection
- Spoil and barrow soil hazards
- Employee protection, access and egress
- Hazards associated with surface encumbrances, adjacent traffic, & adjacent structures
- Confined Space recognition, entry, permits
- Potential for and recognition of hazardous atmospheres
- Emergencies and emergency rescue procedures

## **Excavation-Trenching and Shoring (cont.)**

### **General Employees**

Any employee working in or around trenching and excavation operations shall be properly trained prior to commencing work. Affected employees will be trained by a Competent Person in the following areas:

- Hazards associated with trenching and excavation
- Access and egress procedures
- Hazards associated with surface encumbrances, adjacent traffic, and adjacent structures
- Underground utilities and water accumulation
- Potential for and recognition of hazardous atmospheres
- Cave-in prevention

### **Soil Classification**

Soil classification will be in accordance with the OSHA 1926 Standards, Subpart P. Competent persons will receive training in how to determine soil classifications and the employee protection methods associated with each type.

### **Excavation Inspections**

A Competent Person will inspect excavations before work commences, prior to each work shift, and as required due to a change in conditions. Inspections will include but are not limited to the following:

- Potential signs of cave-ins
- Failures of protective systems and equipment
- Hazardous atmospheres
- Other hazardous conditions

### **Cave-ins and Protective Support Systems**

Excavation workers could be exposed to many hazards, but the chief hazard is the danger of cave-ins. Workers must be protected from cave-ins by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

Designing a protective system can be complex because of the number of factors involved such as soil classification, depth of cut, water content of soil, changes due to weather and climate, and/or other operations in the vicinity. Any excavation 20' or more in depth must be designed by a Registered Professional Engineer. OSHA's Excavation Standard provides several different methods and approaches for designing protective systems that can be used to provide the required level of protection against cave-ins. See the Appendix at the end of this program for more details on protective systems.

### **Safety Precautions**

Support systems such as shoring, bracing, or underpinning should be provided to ensure the stability of adjacent structures such as buildings, walls, sidewalks, or pavement.

Excavations below the level of the base or footing of any foundation or retaining wall are not permitted unless:

- A support system such as underpinning is provided
- The excavation is in stable rock
- A registered professional engineer determines that the structure will not pose a hazard to workers

Excavations under sidewalks and pavements should also be prohibited unless an appropriately designed support system is provided or another effective method is used.

## **Excavation-Trenching and Shoring (cont.)**

### **Installation and Removal of Protective Support Systems**

The following procedures will be provided for the protection of workers when installing support systems:

- Securely connected members of support systems
- Safely installed support systems
- Never overloaded members of support systems
- Other structural members installed to carry loads imposed on the support system when temporary removal of individual members is necessary

As soon as work is completed, the excavation will be backfilled as the protective system is dismantled. After the excavation has been cleared, workers should slowly remove the protective system from the bottom up, taking care to release members slowly.

### **Materials and Equipment Hazards**

Defective and damaged materials and equipment can result in the failure of a protective system and cause excavation hazards.

To avoid possible failure of a protective system, the employer should check to see that:

- Materials and equipment are free from damage or defects
- Manufactured materials and equipment are used and maintained in a manner consistent with the recommendations of the manufacturer and in a way that will prevent worker exposure to hazards
- While in operation, damaged materials and equipment are examined by a Competent Person to determine if they are suitable for continued use. If materials and equipment are not safe for use, they should be removed from service. These materials cannot be returned to service without the evaluation and approval of a registered professional engineer.

### **Additional Precautions**

In addition to cave-in hazards and secondary hazards related to cave-ins, there are other hazards from which workers should be protected during excavation-related work. These hazards include exposure to falls, falling loads, and mobile equipment. The following precautions should be followed to protect workers from these hazards:

- Keep materials or equipment that might fall or roll into an excavation at least 2 feet from the edge of the excavations, or provide retaining devices, or both.
- Provide warning systems such as mobile equipment, barricades, hand or mechanical signals, or stop logs to alert operators of the edge of an excavation. If possible, keep the grade away from the excavation.
- Provide scaling to remove loose rock or soil or install protective barricades and other equivalent protection to protect workers against falling rock, soil, or materials.
- Workers should not be permitted to work on faces of sloped or benched excavations at levels above other workers unless workers at lower levels are adequately protected from the hazard of falling, rolling, or sliding material equipment.
- Workers should not be permitted to work under loads that are handled by lifting or digging equipment. To avoid being struck by any spillage or falling materials, require workers to stand away from vehicles being loaded or unloaded. If cabs of vehicles provide adequate protection from falling loads, during loading and unloading operations, the operators may remain in them.

## **Excavation-Trenching and Shoring (cont.)**

### **Water Accumulation**

Workers may not work in excavations where water has accumulated or is accumulating unless adequate protection has been provided. If water removal equipment is used to control or prevent water from accumulating, the equipment and operations of the equipment should be monitored by a Competent Person to ensure proper use.

Diversion ditches, dikes, or other suitable means should be constructed to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Also, a Competent Person should inspect excavations subject to runoffs from heavy rains.

### **Hazardous Atmospheres**

A competent person will test excavations greater than 4 feet in depth, as well as ones where oxygen deficiency or a hazardous atmosphere exist or could reasonably be expected to exist, before a worker enters the excavation. If hazardous conditions exist, controls such as proper respiratory protection or ventilation should be provided. Also, controls used to reduce atmospheric contaminants to acceptable levels should be tested regularly.

Where adverse atmospheric conditions may exist or develop in an excavation, emergency rescue equipment should be provided.

When a worker enters bell-bottom pier holes and similar deep and confined footing excavations, the worker should wear a harness with a lifeline. The lifeline should be securely attached to the harness and should be separate from any line used to handle materials. Also, while the worker wearing the lifeline is in the excavation, an attendant should be present to ensure that the lifeline is working properly and to maintain communication with the worker.

### **Access and Egress**

Safe access and egress to all excavations should be provided. When workers are required to be in excavations 4 feet deep or more, adequate means of exit, such as a ladder within 25 feet of lateral travel, must be provided. If structural ramps are used as a means of access or egress, they should be designed by a qualified person. Also, structural members used for ramps or runways will be uniform in thickness and joined in a manner to prevent tripping or displacement.

### **Vehicular Traffic**

Employees exposed to vehicular traffic must be provided with, and will wear, warning vests or other suitable garments marked with or made of reflective or high-visibility material. Warning vests worn by flagmen must be red or orange and be of reflective material if worn during night work.

### **Fall Protection**

Barricades, walkways, lighting and posting must be provided as necessary prior to the start of excavation operations.

Guardrails, fences, or barricades must be provided on excavations adjacent to walkways, driveways, and other pedestrian or vehicle thoroughfares. Warning lights or other illumination must be maintained as necessary for the safety of the public and employees from sunset to sunrise.



### **Excavation-Trenching and Shoring (cont.)**

Wells, holes, pits, shafts, and all similar excavations must be effectively barricaded or covered and posted as necessary to prevent unauthorized access. All temporary excavations of this type will be backfilled as soon as possible.

Walkways or bridges protected by standard guardrails must be provided where employees and the general public are permitted to cross over excavations. Where workers in the excavation may pass under these walkways or bridges, a standard guardrail and toe board must be used. Information on the requirements for guardrails and toeboards can be found in the Clancy & Theys Fall Protection Program or 1926.500 Subpart M of the OSHA Construction Standards.

## Excavation – Trenching and Shoring Program

### Glossary

- **Adjacent Structure Stability** refers to the stability of the foundation of adjacent structures whose location may create surcharges, changes in soil conditions, or other disruptions that have the potential to extend into the failure zone of the excavation.
- **Bell-bottom Pier Hole** means a type of shaft or footing excavation, the bottom of which is made larger than the cross section above to form a belled shape.
- **Benching or Benching System** is a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or more horizontal steps, usually with vertical or near-vertical surfaces between levels.
- **Cave-in** means the movement of soil or rock into an excavation, or the loss of soil from under a trench shield or support system, in amounts large enough to trap, bury, or injure and immobilize a person.
- **Competent Person** means one who has been trained to identify hazards in the workplace, or working conditions that are unsafe for employees, and who has the authority to have these hazards eliminated or controlled.
- **Cross Braces** mean the horizontal members of a shoring system installed from side to side of the excavation. The cross braces bear against either uprights or wales.
- **Excavation** means any man-made cut, cavity, trench, or depression in an earth surface formed by earth removal.
- **Faces or Sides** mean the vertical or inclined earth surfaces formed as a result of excavation work.
- **Failure** means the movement or damage of a structural member or connection that makes it unable to support loads.
- **Hazardous Atmosphere** means an atmosphere that is explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, that may cause death, illness, or injury.
- **Access and Egress** mean "entry" and "exit" respectively, and refer to the safe means for employees to enter or exit.
- **Protective System** means a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.
- **Ramp** means an inclined walking or working surface that is used to gain access to one point from another. A ramp may be constructed from earth or from structural materials such as steel or wood.
- **Registered Professional Engineer** means a person who is registered as a professional engineer in the state in which the work is taking place.
- **Sheeting** means the members of a shoring system that retain the earth in position and in turn are supported by other members of the shoring system. Picture
- **Shield or Shield System** means a structure used in an excavation to withstand cave-ins and which will protect employees working within the shield system. Shields can be permanent structures or portable units moved along as work progresses.
- **Shoring or Shoring System** means a structure that is built or put in place to support the sides of an excavation to prevent cave-ins.
- **Sloping or Sloping System** means sloping the sides of the excavation away from the excavation to protect employees from cave-ins. The required slope will vary with soil type, weather, and surface or near surface loads that may affect the soil in the area of the trench (such as adjacent buildings, vehicles near the edge of the trench, etc).

## **Excavation – Trenching and Shoring (cont.)**

### **Glossary**

- **Stable Rock** means natural solid mineral material that can be excavated with vertical sides that will remain intact while exposed.
- **Structural Ramp** means a ramp built of steel or wood, usually used for vehicle access. Ramps made of soil or rock are not considered structural ramps.
- **Support System** means a structure such as underpinning, bracing, or shoring, which provides support to an adjacent structure, underground installation, or the sides of an excavation.
- **Surface Encumbrances** include underground utilities, foundations, streams, water tables, transformer vaults, and geologic anomalies.
- **Surcharge** means an excessive vertical load or weight caused by spoil, overburden, vehicles, equipment, or activities that may affect stability.
- **Tabulated Data** means tables and charts approved by a registered professional engineer and used to design and construct a protective system.
- **Trench** means a narrow excavation (in relation to its length) made below the surface of the ground.
- **Trench Box See "Shield".**
- **Unconfined Compressive Strength** is the load per unit area at which soil will fail in compression.
- **Underground Installations** include, but are not limited to, utilities, tunnels, shafts, vaults, foundations, and other underground fixtures or equipment that may be encountered during excavation work.
- **Uprights** mean the vertical members of a trench shoring system placed in contact with the earth and usually positioned so that individual members do not contact each other. Uprights placed so that individual members are closely spaced, in contact with or interconnected to each other, are often called "sheeting."
- **Wales** are horizontal members of a shoring system placed in the direction of the excavation face whose sides bear against the vertical members of the shoring system or earth (the uprights or sheeting).

## Excavation – Trenching and Shoring Program

### Appendix A – Protection Systems Decision Tree

Use the following guideline to determine whether protection systems are needed.

- **If the excavation is less than 4 feet deep**, a protection system is needed that meets the requirements under Appendix B1 – Sloping and Benching or Appendix C – Support Systems, unless the site excavation competent person determines that there is no risk for cave-in.
- **If the excavation is between 4 and 20 feet deep**, a protection system that meets the requirements under Appendix B1 – Sloping and Benching or Appendix C – Support Systems must be installed and utilized in all occupied areas of the excavation.
- **If the excavation is greater than 20 feet**, a protection system designed by a registered engineer must be installed and utilized in all occupied areas of the excavation.

## Excavation – Trenching and Shoring Program

### Appendix B1 – Sloping and Benching Systems

The slope and configuration of sloping and benching systems must be selected and constructed by the Competent Person in accordance with one of the following:

- **Option 1 - Allowable configurations and slopes**
  - Excavations must be sloped at an angle not steeper than one and one-half horizontal to one vertical (34 degrees measured from the horizontal), unless the Competent Person uses one of the other options listed below.
  - The slopes used must be excavated in accordance with the slopes shown for Type B soil in Appendix B2 - Sloping and Benching.
- **Option 2 - Determination of slopes and configurations**
  - Maximum allowable slopes, and allowable configurations for sloping and benching systems must meet the requirements of Appendix B2 - Sloping and Benching and Appendix B3 - Soil Classification.
- **Option 3 - Designs using other tabulated data**
  - The design of sloping or benching systems may be selected from, and must be constructed in accordance with, other tabulated data, such as tables and charts. The tabulated data used must be in written form and include all of the following:
    - ❖ Identification of the factors that affect the selection of a sloping or benching system;
    - ❖ Identification of the limits of use of the data, including the maximum height and the angle
    - ❖ of the slopes determined to be safe;
    - ❖ Other information needed by the user to make correct selection of a protective system.
  - One copy of the tabulated data that identifies the registered professional engineer who approved the data must be maintained at the jobsite during construction of the protective system.
- **Option 4 - Design by a registered professional engineer**
  - Sloping and benching systems not utilizing Option (1), Option (2) or Option (3) above must be approved by a registered professional engineer.
  - Designs must be in written form and must include at least the following:
    - ❖ The maximum height and angle of the slopes that were determined to be safe for the particular project;
    - ❖ The identity of the registered professional engineer approving the design.
    - ❖ At least one copy of the design must be maintained at the jobsite while the slope is being constructed.

## Excavation – Trenching and Shoring Program

### Appendix B2 – Sloping and Benching

#### Scope and Application

This appendix contains specifications for sloping and benching when used as methods of protecting employees working in excavations from cave-ins. The requirements of this appendix apply when the design of sloping and benching protective systems is to be performed in accordance with the requirements set forth in Appendix B1 – Sloping and Benching Systems Option 2.

#### Definitions

**Actual slope** means the slope to which an excavation face is excavated.

**Distress** means that the soil is in a condition where a cave-in is imminent or is likely to occur. Distress is evidenced by such phenomena as the development of fissures in the face of or adjacent to an open excavation, the subsidence of the edge of an excavation, the slumping of material from the face or the bulging or heaving of material from the bottom of an excavation, the spalling of material from the face of an excavation, and ravelling, i.e., small amounts of material such as pebbles or little clumps of material suddenly separating from the face of an excavation and trickling or rolling down into the excavation.

**Maximum allowable slope** means the steepest incline of an excavation face that is acceptable for the most favorable site conditions as protection against cave-ins, and is expressed as the ratio of horizontal distance to vertical rise (H:V).

**Short term exposure** means a period of time less than or equal to 24 hours that an excavation is open.

#### Requirements

- **Soil classification**  
Soil and rock deposits must be classified in accordance with the Appendix B3 - Soil Classification Procedures.
- **Maximum allowable slope**  
The maximum allowable slope for a soil or rock deposit must be determined from Table B2-1.

**Table B2-1: Maximum Allowable Slopes for Excavations Less Than 20 Feet**

Soil or Rock Type	Maximum Slope (H:V)	Maximum Slope (Degrees)
Stable Rock	Vertical	90
Type A	.75:1	53
Type B	1:1	45
Type C	1.5:1	34

*Footnote(1) Numbers shown in Max Slope (degrees) are angles expressed in degrees from the horizontal. Angles have been rounded off.*

*Footnote(2) A short-term maximum allowable slope of 1/2H:1V (63 degrees) is allowed in excavations in Type A soil that are 12 feet (3.67 m) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4H:1V (53 degrees).*

*Footnote(3) Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.*

## Excavation – Trenching and Shoring Appendix B2 (cont.)

- **Actual slope**

The actual slope must not be steeper than the maximum allowable slope.

The actual slope must be less steep than the maximum allowable slope when there are signs of distress. If that situation occurs, the slope must be cut back to an actual slope which is at least 1/2 horizontal to one vertical (1/2H:1V) less steep than the maximum allowable slope.

When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a Competent Person must determine the degree to which the actual slope must be reduced below the maximum allowable slope, and assure that such reduction is achieved.

Surcharge loads from adjacent structures must be evaluated in accordance with this program.

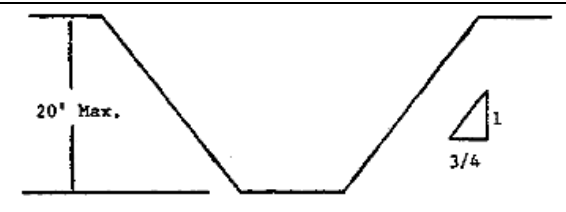
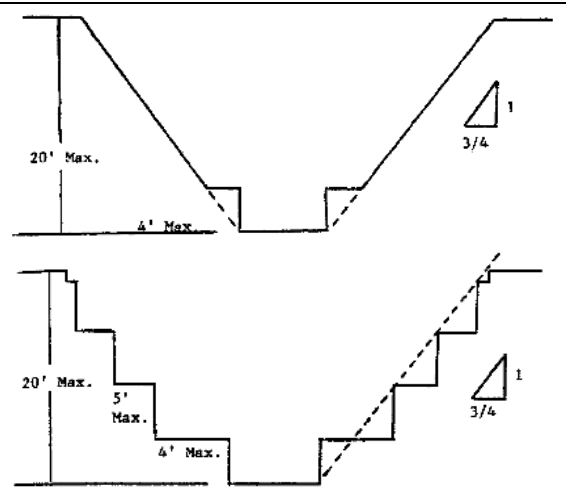
### Configurations

Configurations of sloping and benching systems must be in accordance with the table and figures below.

#### **Figures: Slope Configurations**

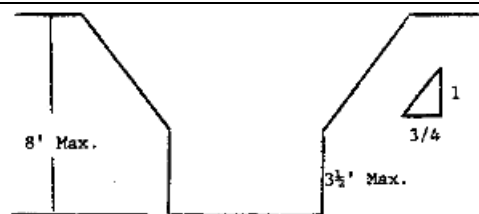
All slopes stated below are in the horizontal to vertical ratio.

#### Excavations made in **Type A** soil

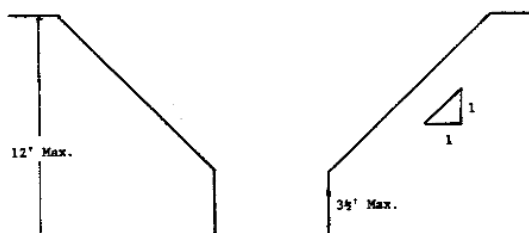
All simple slope excavations 20 feet or less in depth will have a maximum allowable slope of 3/4:1.	
All benched excavations 20 feet or less in depth will have a maximum allowable slope of 3/4 to 1 and maximum bench dimensions as indicated.	

## Excavation – Trenching and Shoring Appendix B2 (cont.)

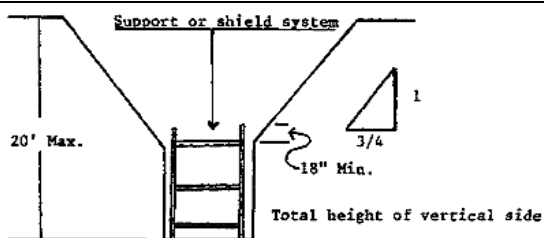
All excavations 8 feet or less in depth which have unsupported vertically sided lower portions will have a maximum vertical side of 3 1/2 feet.



All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions will have a maximum allowable slope of 1:1 and a maximum vertical side of 3 1/2 feet.



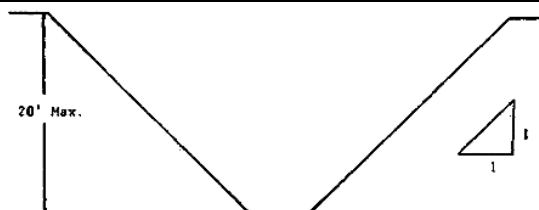
All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded will have a maximum allowable slope of 3/4:1. The support or shield system must extend at least 18 inches above the top of the vertical side.



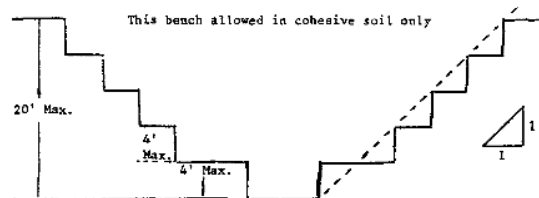
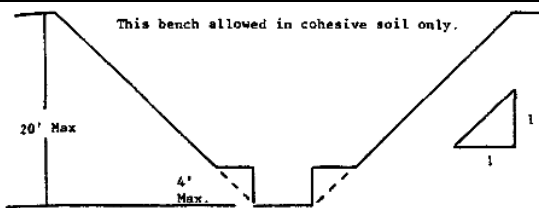
All other simple slope, compound slope, and vertically sided lower portion excavations will be in accordance with the other options described in Appendix B1 – Sloping and Benching Systems.

### Excavations Made in **Type B** Soil

All simple slope excavations 20 feet or less in depth will have a maximum allowable slope of 1:1.



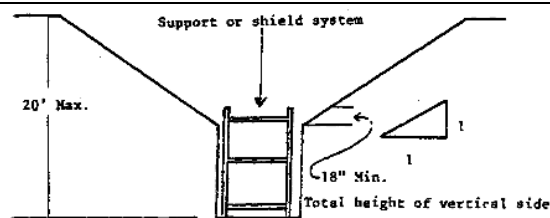
All benched excavations 20 feet or less in depth will have a maximum allowable slope of 1:1 and maximum bench dimensions as indicated.





## Excavation – Trenching and Shoring Appendix B2 (cont.)

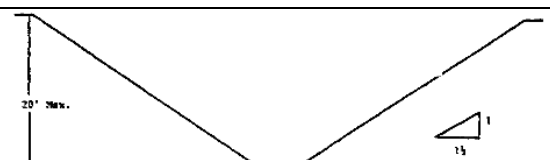
All excavations 20 feet or less in depth which have vertically sided lower portions will be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations will have a maximum allowable slope of 1:1.



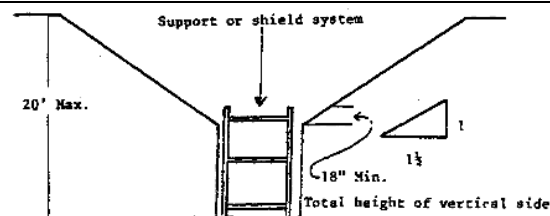
All other sloped excavations must be in accordance with the other options permitted in Appendix B1 – Sloping and Benching Systems.

### Excavations Made in **Type C** Soil

All simple slope excavations 20 feet or less in depth will have a maximum allowable slope of 1 1/2:1.



All excavations 20 feet or less in depth which have vertically sided lower portions will be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations will have a maximum allowable slope of 1 1/2:1.

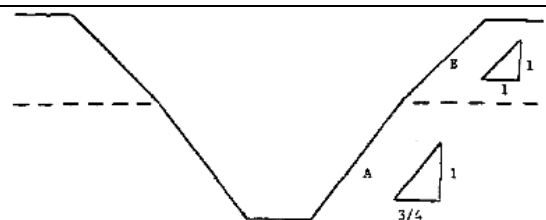


All other sloped excavations must be in accordance with the other options described in Appendix B1 – Sloping and Benching Systems.

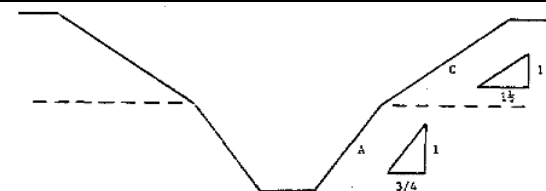
### Excavations Made in **Layered Soils**

All excavations 20 feet or less in depth made in layered soils will have a maximum allowable slope for each layer as set forth below.

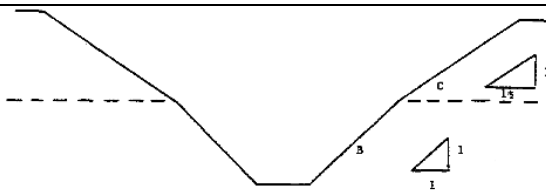
Type B over Type A



Type C over Type A



Type C over Type B



## Excavation – Trenching and Shoring Appendix B2 (cont.)

Type A over Type B	
Type A over Type C	
Excavations Made in Layered Soils - Continued Type B over Type C	

All other sloped excavations must be in accordance with the other options described in Appendix B1 – Sloping and Benching Systems.

## Excavation – Trenching and Shoring Program

### Appendix B3 – Soil Classification Scope and Application

#### Scope

This appendix describes a method of classifying soil and rock deposits based on site and environmental conditions, and on the structure and composition of the earth deposits. This appendix contains definitions, sets forth requirements, and describes acceptable visual and manual tests for use in classifying soils.

#### Application

This appendix applies when a sloping or benching system is designed in accordance with the requirements set forth in 1926.652(b)(2) as a method of protection for employees from cave-ins. This appendix also applies when timber shoring for excavations is designed as a method of protection from cave-ins in accordance with appendix C to subpart P of part 1926, and when aluminum hydraulic shoring is designed in accordance with appendix C. This Appendix also applies if other protective systems are designed and selected for use from data prepared in accordance with the requirements set forth in 1926.652(c), and the use of the data is predicated on the use of the soil classification system set forth in this appendix.

#### Definitions

The definitions and examples given below are based on, in whole or in part, the following; American Society for Testing Materials (ASTM) Standards D653-85 and D2488; The Unified Soils Classification System; The U.S. Department of Agriculture (USDA) Textural Classification Scheme; and The National Bureau of Standards Report BSS-121.

- ***Cemented soil*** means a soil in which the particles are held together by a chemical agent such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.
- ***Cohesive soil*** means clay (fine grained soil) or soil with a high clay content which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry and exhibits significant cohesion when submerged. Cohesive soils include clay type silt, sandy clay, silty clay, clay and organic clay.
- ***Dry soil*** means soil that does not exhibit visible signs of moisture content.
- ***Fissured*** means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks in an exposed surface.
- ***Granular soil*** means gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.
- ***Layered system*** means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.

## Excavation – Trenching and Shoring Appendix B3 (cont.)

- **Moist soil** means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.
- **Plastic** means a property of a soil which allows the soil to be deformed or molded without cracking or appreciable volume change.
- **Saturated soil** means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or shear vane.
- **Soil classification system** means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.
- **Stable rock** means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.
- **Submerged soil** means soil which is underwater or is free seeping.
- **Type A** means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:
  - The soil is fissured; or
  - The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
  - The soil has been previously disturbed; or
  - The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or
  - The material is subject to other factors that would require it to be classified as a less stable material.
- **Type B** means:
  - Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or
  - Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.
  - Previously disturbed soils except those which would otherwise be classed as Type C soil.
  - Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or
  - Dry rock that is not stable; or
  - Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.
- **Type C** means:
  - Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or
  - Granular soils including gravel, sand, and loamy sand; or
  - Submerged soil or soil from which water is freely seeping; or
  - Submerged rock that is not stable, or

## **Excavation – Trenching and Shoring Appendix B3 (cont.)**

- Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.
  - ***Unconfined compressive strength*** means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.
  - ***Wet soil*** means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

### **Requirements**

#### **Classification of soil and rock deposits**

Each soil and rock deposit shall be classified by a Competent Person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth in this appendix.

#### **Basis of classification**

The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a Competent Person using tests described below, or in other recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

- **Visual and manual analyses**  
The visual and manual analyses, such as those noted as being acceptable in this appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.
- **Layered systems**  
In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.
- **Reclassification**  
If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a Competent Person. The deposit shall be reclassified as necessary to reflect the changed circumstances.
- Acceptable visual and manual tests

#### **Visual tests**

- Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.
- Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.

## **Excavation – Trenching and Shoring Appendix B3 (cont.)**

- Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.
- Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.
- Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil.
- Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers.
- Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.
- Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

### **Manual tests**

- Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

**Plasticity.** Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive.

**Dry strength.** If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured.

**Thumb penetration.** The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils (based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation D2488 - "Standard Recommended Practice for Description of Soils (Visual - Manual Procedure).") Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences. If the excavation is later exposed to wetting influences (rain, flooding), the classification of the soil must be changed accordingly.

**Other strength tests.** Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shearvane.

**Drying test.** The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.54 cm) and six inches (15.24 cm) in diameter until it is thoroughly dry:

- If the sample develops cracks as it dries, significant fissures are indicated.
- Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as an unfissured cohesive material and the unconfined compressive strength should be determined.
- If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them.
- If the clumps do not pulverize easily, the material is cohesive with fissures. If they pulverize easily into very small fragments, the material is granular.

## Excavation – Trenching and Shoring

### Appendix C – Support Systems

The design of support systems, shield systems, and other protective systems shall be selected and constructed by the Competent Person in accordance with one of the following options.

- **Option 1 - Designs using OSHA Criteria**

Timber shoring and aluminum hydraulic shoring must be utilized in accordance with OSHA criteria. If this option is selected, contact EHSS to coordinate design and implementation of these systems.

- **Option 2 - Designs using manufacturer's tabulated data**

Support systems, shield systems, or other protective systems (e.g. trench boxes) drawn from manufacturer's tabulated data shall be constructed and used in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer.

Deviation from the specifications, recommendations, and limitations issued or made by the manufacturer shall only be allowed after the manufacturer issues specific written approval.

Manufacturer's specifications, recommendations, limitations, and manufacturer's approval to deviate from the specifications, recommendations, and limitations shall be kept in written form at the jobsite during construction of the protective system.

- **Option 3 - Designs using other tabulated data**

Designs of support systems, shield systems, or other protective systems shall be selected from and be constructed in accordance with tabulated data such as tables and charts.

The tabulated data shall be in written form and include all of the following:

- Identification of the factors that affect the selection of a protective system drawn from such data
- Identification of the limits of use of the data
- Information needed by the user to make a correct selection of a protective system from the data

At least one copy of the tabulated data, identifying the registered professional engineer who approved the data, shall be maintained at the jobsite during construction of the system. After that time, the data may be stored off the jobsite, but a copy of the data shall be made available to EHSS upon request.

- **Option 4 - Design by a registered professional engineer**

Support systems, shield systems, and other protective systems not using the options detailed in options 1, 2, or 3 above, shall be approved by a registered professional engineer.

Designs shall be in written form and shall include the following:

- A plan indicating the sizes, types, and configurations of the materials to be used in the protective system; and
- The identity of the registered professional engineer approving the design.
- At least one copy of the design shall be maintained at the jobsite during construction of the protective system.



## **Excavation – Trenching and Shoring Appendix C (cont.)**

### **Materials and Equipment**

Materials and equipment used for protective systems shall be free from damage or defects that might affect their proper function.

Manufactured materials and equipment used for protective systems shall be used and maintained in accordance with the recommendations of the manufacturer, and in a manner that will prevent employee exposure to hazards.

When material or equipment used for protective systems are damaged, the Competent Person shall ensure that these systems are examined by a Competent Person to evaluate suitability for continued use. If the Competent Person cannot assure the material or equipment is able to support the intended loads or is otherwise suitable for safe use, then such material or equipment shall be removed from service. These materials or equipment shall be evaluated and approved by a registered professional engineer before being returned to service.

### **Installation and Removal of Support**

Members of support systems shall be securely connected together to prevent sliding, falling, kickouts, or other potential hazards.

Support systems shall be installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by members of the support system.

Individual members of support systems shall not be subjected to loads exceeding those which those members were designed to support.

Before temporary removal of individual support members begins, additional precautions shall be taken as directed by the Competent Person to ensure the safety of employees. These precautions could include, for example, the installation of other structural members to carry the loads imposed on the support system.

Removal of support systems shall begin at, and progress from, the bottom of the excavation. Members shall be released slowly. If there is any indication of possible failure of the remaining members of the structure or possible cave-in of the sides of the excavation the work shall be halted until it can be examined by the Project Manager.

Backfilling shall progress together with the removal of support systems from excavations.

Additional requirements for support systems for trench excavations:

- Excavation of material to a level no greater than 2 feet below the bottom of the members of a support system is allowed, but only if the system is designed to resist the forces calculated for the full depth of the trench. There shall be no indications while the trench is open of a possible loss of soil from behind or below the bottom of the support system.
- Installation of a support system shall be closely coordinated with the excavation of trenches.

### **Shield systems**

- Shield systems shall not be subjected to loads that are greater than those they were designed to withstand.
- Shields shall be installed in a manner that will restrict lateral or other hazardous movement of the shield that could occur during cave-in or unexpected soil movement.
- Employees shall be protected from the hazard of cave-ins when entering or exiting the areas protected by shields.

### **Excavation – Trenching and Shoring Appendix C (cont.)**

- Employees shall not be allowed in shields when shields are being installed, removed, or moved vertically.
- In trench excavations, excavation of material to a level no greater than 2 feet below the bottom of the shield system is allowed, but only if the system is designed to resist the forces calculated for the full depth of the trench. While the trench is open there shall be no indications of a possible loss of soil from behind or below the bottom of the shield system.



## FALL PROTECTION PROGRAM

### **Duty To Have Fall Protection**

Each employee shall be protected from falling:

- On the same level as the walking and working surface (Trip Hazards)
- From heights of greater than six feet (6') above a walking and working surface
- Objects falling from above

### **Responsibilities**

Clancy & Theys will provide equipment and means for its employees to protect themselves from recognized fall hazards.

Clancy & Theys will train its employees in the recognition of fall hazards and the associated fall protection systems.

Employees of Clancy & Theys will at all times abide by fall protection policies, procedures and training requirements specified in this program and the OSHA Standards.

Employees of Clancy & Theys will insure that fall protection systems are in place BEFORE work begins.

***“It is the responsibility of each employee to protect their self and their fellow employees from fall hazards.”***

### **Training Requirements**

Clancy & Theys will provide fall protection training to any employee exposed to a fall hazard, prior to exposure to the hazard.

A "Competent Person" will perform all training.

Training will include the following....

- The nature of fall hazards
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems and equipment to be used
- The use and operation of fall protection equipment and systems to be used
- The limitations of the fall protection equipment and systems

Re-Training is required but not limited to the following situations:

- Changes in workplace conditions
- Changes in fall protection systems or equipment
- The employee demonstrates inadequate knowledge or use of fall protection systems or equipment

Clancy & Theys will also provide for training of personnel designated as “Competent Person.” Only after formal training will the qualified individuals have the authority to stop work if hazardous conditions are present and to take corrective action before works continues.

## **Fall Protection (cont.)**

Each Superintendent of Clancy & Theys will have appropriate fall protection training, after which they have the full authority of a “Competent Person” as required by the OSHA standards.

### **Certification of Training**

Clancy & Theys must maintain written certification of training. Certification documentation shall be maintained at the home office and must include the following:

- The name of the employee trained and signature
- Date of training
- Person who conducted the training

## **Fall Hazards**

### **General**

- All workers shall be protected from falling 6 feet or greater from their walking/working surface by a personal fall arrest system, handrail system, or safety net.
- Floor openings and floor holes should be guarded by standard railings and toeboards or covers.  
*-Floor holes or openings are defined as being 2 inches in diameter or greater.*
- Open-sided floors and platforms 6 feet or more from the adjacent floor or ground level should also be guarded by standard railings and toeboards.
- Hatchways and floor chute openings should be covered with hinged covers or removable guardrails. The covers and guardrails should be in place when the opening is not in use.
- Ladder way floor openings and platforms should be guarded on all open sides. The passage through the railing should have either a swinging gate or an offset to prevent anyone from walking directly into the opening. Employees should not have to climb through a handrail system to access/egress a ladder.
- Excavations - Each employee at the edge of an excavation 6 feet or more in depth shall be protected from falling by guardrail systems, fences, or barricades especially when the excavations are not readily seen because of plant growth or other visual barrier.
- Employees having to cross an excavation or trench 6 feet or more in depth shall be provided with a walkway with handrails.
- Each employee at the edge of a well, pit, shaft, and similar excavation 6 feet or more in depth shall be protected from falling by guardrail systems, fences, barricades, or covers.
- Wall openings - Each employee working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6 feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface, shall be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.
- Hoist or material loading areas shall be equipped with a removable handrail system or gate. If the removable handrail system or gate is removed during loading or unloading those employees

## **Fall Protection (cont.)**

performing the loading or unloading shall wear a personal fall arrest system. Upon completion of the task the handrail system shall be immediately replaced.

## **Standard Guardrail Systems**

- The top rail should consist of nominally dressed 2 x 4 wooden handrails, 1-1/2 inch nominal diameter piping railing, or the equivalent. The top rail should be 42 inches high  $\pm$  3 inches and should have midrail halfway between the top rail and floor. The wooden midrail should be at least 1 inch x 6 inch. The posts should be spaced not more than 8 feet on center.
- If wire rope is used for top rails, it shall be flagged at not more than 6-foot intervals with high-visibility material. Top rails and midrails shall be at least one-quarter inch nominal diameter to prevent cuts and lacerations.
- The posts and railings should be capable of withstanding a load of 200 pounds from any direction, at any point, with a maximum deflection of  $\pm$  3 inches.
- Lumber used in the construction of temporary or permanent handrails should be sound and should not contain large or loose knots or any other defects which could reduce the strength of the lumber.
- Materials used for railing systems shall be smooth surfaced so as not to cause injury or the snagging of clothing.
- Nails should be driven in completely. They should be of the proper size and number to provide the required strength in the joints. Double-headed nails should not be used.
- When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.

## **Personal Fall Arrest Systems**

### **Training**

- Any employee of Clancy & Theys that must wear a personal fall arrest system shall be trained in its use, care and limitations by a Competent Person prior to use.

### **Inspection of Equipment**

- Employees shall inspect all components of a personal fall arrest system for wear, damage and other deterioration that may result in the failure of the system.
- Inspections shall be performed prior to use and/or each shift change.
- Any faulty or questionable equipment found shall be immediately turned over to the Competent Person for repairs or discarding.

## **Fall Protection (cont.)**

### **Use**

- Horizontal lifelines shall be designed, installed, and used under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.
- Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body belts and body harnesses shall be made from synthetic fibers.
- Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached.
- A personal fall arrest system shall be rigged so that an employee can free fall no more than 6 feet and cannot contact any lower level.
- Body belts, harnesses, and components shall be used only for employee protection and not to hoist materials.
- Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a Competent Person to be undamaged and suitable for reuse.
- The job site supervisor shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.
- When a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

## **Protection from Falling Objects**

### **Hardhats**

- Head protection shall be worn anytime there is a potential for falling objects or possible injury could occur to the head.

### **Toe boards, Screens and Canopies**

- When used as falling object protection, shall be erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below.
- Toe boards shall be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along the toe board.
- Toe boards shall be a minimum of 3-1/2 inches in vertical height from their top edge to the level of the walking/working surface. They shall have not more than 1/4 inch clearance above the walking/working surface. They shall be solid or have openings not over 1 inch in greatest dimension.

### **Fall Protection (cont.)**

- Where tools, equipment, or materials are piled higher than the top edge of a toe board, paneling or screening shall be erected from the walking/working surface or toe board to the top of a guardrail system's top rail or midrail, for a distance sufficient to protect employees below.
- Guardrail systems, when used as falling object protection, shall have all openings small enough to prevent passage of potential falling objects.
- Canopies, when used as falling object protection, shall be strong enough to prevent collapse and to prevent penetration by any objects which may fall onto the canopy.

### **Covers**

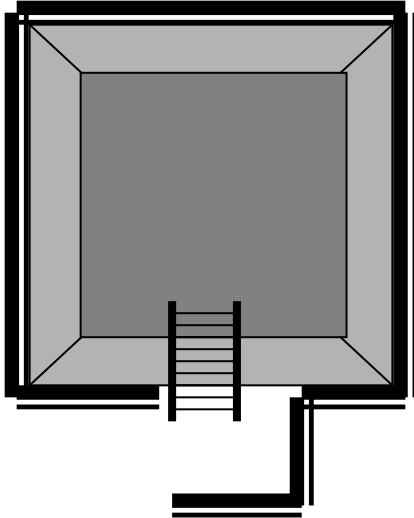
Covers for holes in floors, roofs, and other walking/working surfaces shall meet the following requirements:

- Covers located in roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.
- All other covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
- All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.
- All covers shall be color-coded or they shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.

## Fall Protection (cont.)

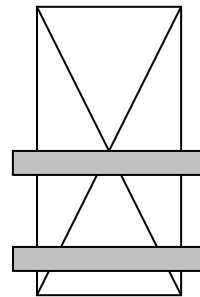
### APPENDIX A – Fall Protection

#### Guarding a Ladder way



Must be a system that is offset so that a person cannot walk straight into the opening or a gate that locks in the closed position

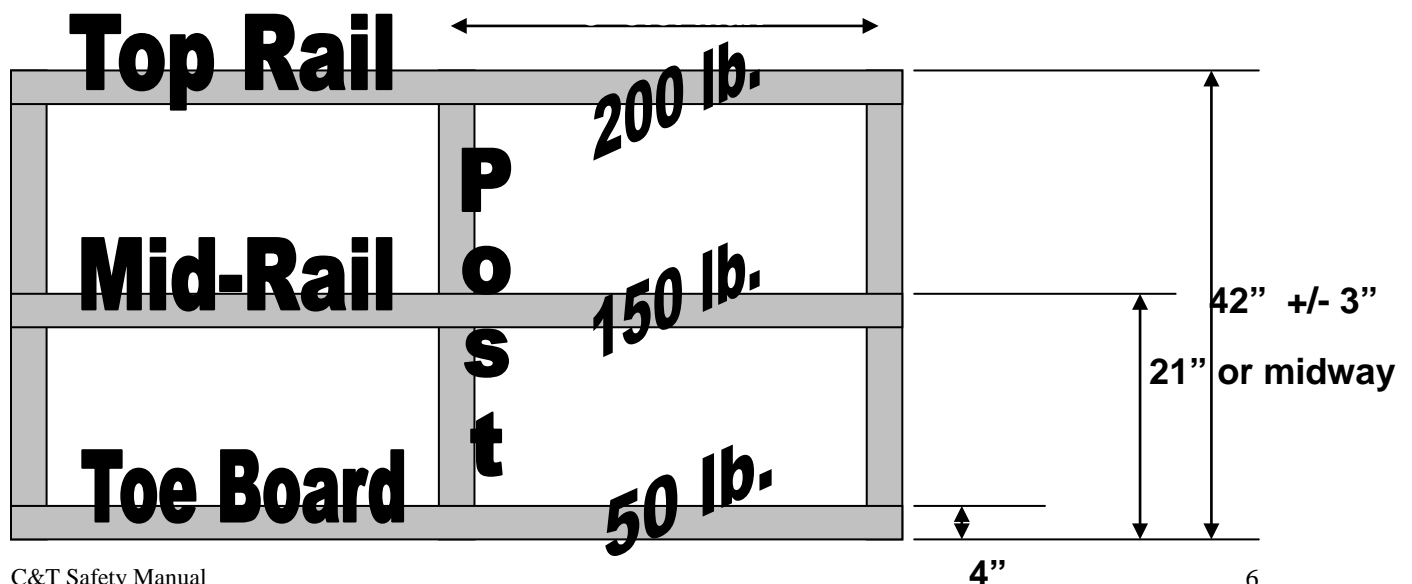
#### Guarding a Wall Opening



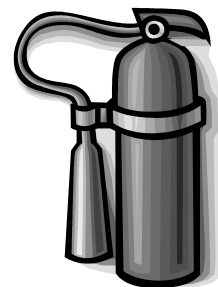
If bottom of opening is less than 39" install a top rail

If bottom of opening is less than 21" install a midrail & top rail

#### Typical Handrail Configuration







## **FIRE PROTECTION AND PREVENTION PROGRAM**

### **Purpose**

The purpose of this Fire Protection and Prevention Program is to prevent potential injuries or deaths and to protect company property from damage or loss due to fires. This program documents the procedures for fire protection and prevention at our company's facilities.

### **Policy**

Clancy & Theys does not require anyone to fight a fire. It is this company's policy that only Clancy & Theys employees that have been trained to use fire extinguishers should attempt to extinguish any incipient "Small" stage fires. If an employee chooses to fight a fire, then they must follow all procedures set forth in "The procedures for fire extinguisher use" that are contained in this program. Each employee's personal safety, health, and well-being are always the company's number one priority.

Fire extinguishers shall not be relied on as the only means to provide protection against fire hazards. Fire extinguishers will be used in conjunction with employee notification, evacuation, contacting 911 emergency services, and accounting for all employees in the event of a fire. Any recognized fire hazards will be immediately reported to your supervisor to be corrected or removed to provide protection against fire hazards. Fire protection equipment will be maintained in an accessible and reliable condition at all times and inspected on a regular basis.

### **Fire Prevention**

Our first line of defense against fire is to prevent it in the first place. It is the responsibility of all employees to prevent fires. All employees will be instructed on the potential fire hazards in their work area and they will be trained in safe work procedures and practices. All Clancy & Theys employees are expected to follow proper procedures to prevent fires and to notify their supervisor or other management personnel if they observe any conditions that could lead to the ignition of a fire or could increase the spread of a fire.

Following are some general fire prevention practices and procedures that shall be followed:

- All ignition sources (i.e., open flames, welding, cutting torches, spark producing equipment, electric motors, heating equipment, etc.) should be controlled, and contact with combustible and flammable materials must be avoided. Keep all combustible materials at least five feet (5') from such ignition sources and all flammable liquids at least twenty feet (20') away.
- Any damaged or frayed electrical wiring, equipment cords, extension cords, etc. should be removed from service immediately, tagged "DO NOT USE", and replaced or repaired by a qualified person.
- Any use of flammable liquids must be done in a manner that prevents spills and prevents the flammable liquid or its vapor or spray from coming in contact with any ignition source. All flammable liquids must be stored in proper flammable liquid storage containers and kept in the proper storage cabinets.
- Shop housekeeping and storage practices are critical to preventing fires. Combustible materials must be stored in neat stacks with adequate aisle space provided to prevent easy spread of fire and to allow for access to extinguish any fire that may start. Boxes and other combustible materials shall be kept at least 24 inches away from the ceiling. A minimum of 36 inches of clearance shall be maintained around all electrical panels. Trash, scrap, and other unnecessary combustibles must be cleaned up immediately and placed in proper disposal containers. All trash cans shall be emptied on a regular basis.

## **Fire Protection and Prevention (cont.)**

- Smoking may not be allowed on all sites, employees are responsible to observe “NO Smoking” signs and smoke only in designated areas.

### **Building Fire Exits (Shop and Warehouse Areas, New Construction, Additions and Renovations)**

- All employees must be aware of fire extinguisher locations, evacuation routes, and the designated assembly areas.
- If any employee discovers a fire or smoke they should alert everyone as quickly and as safely as possible. They are to leave the area immediately and go to the designated assembly area.
- Fire exit doors must not be blocked or locked to prevent emergency use when employees are within the building.
- Exit routes from our building must be clear and free of obstructions. All exits are marked with signs designating exits from the building. Report any burned-out exit signs to your supervisor immediately so they can be repaired.

### **Fire Extinguishers – Placement/Location**

Fire extinguishers should be provided throughout a building during construction after the roof/floor decking and walls are started. There should be a fire extinguisher for every 3,000 square feet of building and at the top of each stairway.

The Shop and warehouse areas will have a minimum of 2 fire extinguishers rated not less than 2A:10B:C.

Fire extinguisher will be located on, with or near all forklifts, aerial lifts, welding machines, cutting torches, and field vehicles owned by Clancy & Theys.

It is against company policy to use a fire extinguisher for anything other than its intended use. Fire extinguishers are never to be removed from their assigned locations except for extinguishing fires or when removed for service. Employees found discharging a fire extinguisher for purpose other than extinguishing a fire will be disciplined up to termination of employment.

Our fire extinguishers will be inspected annually by a fire protection equipment company and tagged with the date of inspection. An assigned Clancy & Theys employee for each project and department will be designated to inspect our fire extinguishers every 30 days. This monthly fire extinguisher inspection will be documented by writing their initials and date of inspection on the back of the inspection tag.

If a fire extinguisher is used or discharged for any reason, it must be removed from service, tagged “DO NOT USE”, and replaced with another properly charged fire extinguisher of the same size and rating while it is being recharged.

## **Fire Protection and Prevention (cont.)**

### **Maintenance of Fire Extinguishers**

It is very important that all fire extinguishers be kept free from obstructions and properly maintained by the employee. It is the responsibility of the supervisor to make sure all fire extinguishers are maintained in all assigned locations, they are easily accessible, and they are inspected every 30 days. Supervisors are responsible for ensuring compliance with this program.

*All Fire Extinguishers shall be inspected on the 1<sup>st</sup> working day of each month.*

### **Recharging and Servicing of Fire Extinguishers**

The supervisor has responsibility for having all fire extinguishers recharged and serviced as needed. If a fire extinguisher is found by an employee to be in need of recharge, repair, service, or replacement, it is the responsibility of the employee to bring it to the immediate attention of his or her supervisor. When a fire extinguisher is discharged or removed for service, it will be immediately replaced with a fire extinguisher of equal size and rating.

### **Employee Training**

1. Training will be provided for each employee who is allowed to use fire extinguishers. Training will include:
  - The company's Fire Protection and Prevention Program
  - Building Evacuation and Notification
  - Accountability of Employees
  - Classification of Fires
  - Types of Fire Extinguishers
  - Proper Operation of Fire Extinguishers (Must be hands on training per NFPA)
  - Procedures for Fire Extinguisher Use
2. Trained employees must demonstrate, to their supervisors, an understanding of the training and the ability to use fire extinguishers properly before they are allowed to use fire extinguishers.
3. Trained employees shall not use fire extinguishers without first alerting their co-workers and 911 emergency services to protect everyone and company property from the hazards associated with fires.
4. If their supervisor has reason to believe an employee does not have the understanding or skill required, then the supervisor must retrain them. Circumstances where retraining may be required include: changes in the workplace, changes in the procedures being used, or changes in the types of equipment to be used which would render previous training obsolete. Also, inadequacies in an affected employee's knowledge of what to do in case of a fire or proper use of fire extinguishers, which indicates that the employee has not retained the necessary understanding or skills, may require retraining.
5. The Supervisor will certify in writing that the employee has received and understands the fire extinguisher training. Each written certification shall contain the name of each employee trained, the date(s) of training, the instructor's name, and identify in detail, what subject the employee was certified in.
6. Fire extinguisher refresher training is required annually for all those employees who have been previously trained in fire extinguisher use here at Clancy & Theys.

## **Fire Protection and Prevention (cont.)**

7. All supervisors and managers are responsible for ensuring their employees are in compliance with this policy. Failure to comply (failure to wear such equipment) will result in disciplinary action up to and including discharge.

### **Procedures for Fire Extinguisher Use**

If any trained employee chooses to fight a fire here at Clancy & Theys, they are required to follow this Procedure for Fire Extinguisher Use in the following order:

1. Alert all co-workers and your supervisor that there is a fire and instruct them to evacuate the building and report to the assembly area outside.
2. Establish a way out.
3. Size-up the fire.
4. Establish a trained back-up person with an appropriate fire extinguisher.
5. Attempt to extinguish the fire.
6. Evacuate the building.
7. Report to the assembly area outside.

## **General Fire Protection Rules & Standards**

### **Fire Extinguisher Requirements:**

- One 2A:10B:C rated fire extinguisher is required:
  - To be located throughout the building no further than 75 feet from any given point
- One 10B rated fire extinguisher (5 lb. ABC Dry Chemical) must be:
  - Within 50 ft. of wherever more than 5 gallons of flammable or combustible liquids or 5 lb. of flammable gas are being used.
- One 20B rated fire extinguisher must be:
  - From 25 to 75 feet of an outside flammable or combustible liquid storage area.
- All fire extinguishers must be inspected at least every 30 days.
  - A written record of each inspection must be maintained showing the date of each inspection and the initials of the person who performed each inspection.

### **Temporary Heaters**

- If using temporary heaters inside, make certain that adequate fresh air is available to avoid asphyxiation.
- Install circulating heaters with a minimum of 12-inch clearance on all sides.
- Radiant-type heaters must have a minimum of 36-inch clearance on all sides.
- Salamanders:
  - Hot salamanders may not be refueled or relit under any circumstances.
  - Gasoline or kerosene may not be used unless the heater is designed for such fuel.
  - Always secure salamanders in a manner that will prevent their tipping over due to impact, collision or wind.

## **Fire Protection and Prevention (cont.)**

### **Compressed Gas Cylinders**

- Cylinders, when in use, shall be secured on a cart to prevent tipping over.
- Oxy / Fuel Cylinders, when not in use, shall be secured and separated by a distance of 20 feet or by a 5 foot high, 1 foot wide fire wall with a rating of 1-hour.
- Cylinders shall be secured at all times.
- Cylinders shall be stored in areas where they will not be knocked over or damaged by passing or falling objects.
- Cylinders shall be kept far enough away from hot work operations so that sparks, hot slag or flames cannot reach them.
- When work is finished, cylinders are empty, or cylinders are moved, the cylinder valve shall be closed and capped.

### **Hot Work (Welding and Cutting)**

- During any hot work, a suitable fire extinguisher(s) shall be located in the immediate vicinity of the operation and on adjacent floors if necessary.
- Fire blankets or other fire retardant materials shall be used to cover combustible items that have the potential to ignite.
- A fire watch should be maintained during and for at least 30 minutes after hot work operations in the vicinity of combustible or flammable materials takes place.

## NEW SAFETY POLICY

TO: All Superintendents  
Tony Green  
Isaac Ferrell  
Barry Riley

FROM: Lyle Gurley

CC: Tick Clancy

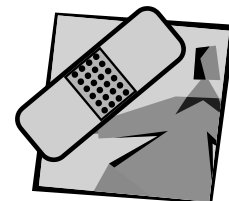
DATE: June 29, 2004

SUBJECT: Fire Extinguishers

During recent project safety inspections by our Safety Committee, OSHA inspectors and my self it has become evident that we have a flaw in our fire extinguisher inspection process. Fire extinguishers are constantly found that are not in compliance with the OSHA & NFPA Standards. In order to cut down on the number of violations and the risk of harm to you or other employees the following will become affective as of July 1, 2004.

### **FIRE EXTINGUISHER INSPECTION**

- **All fire extinguishers will be inspected on the first Monday of each month.**  
Regardless of the whether it is in storage (warehouse/other storage), on equipment/vehicle, or on a project site. Please make necessary personnel assignments for carrying out this task each month.
  - ☐ Mark the calendars & assign responsible personnel
- **The Inspection will include the following:**
  - ☐ Make sure the inspection tag is in place and current (Valid 1 year from Month and Date on the card)
  - ☐ Check to see if extinguisher is full charged by reading the gauge (Arrow must be in the GREEN)
  - ☐ Make sure the pull pin is in place and secured by a pull pin retainer tab (usually lightweight plastic)
  - ☐ INITIAL AND DATE THE BACK OF THE INSPECTION CARD.
- **Faulty Fire Extinguishers**  
If any of the following is found the fire extinguisher is faulty:
  - Inspection Tag out of date or missing
  - Pressure gauge reading anywhere out of GREEN
  - Missing pull pin or pull pin retainer tab
  - Missing or damaged parts  
What to do when fire extinguisher is found faulty:
  - ☐ Tag "Do Not Use" immediately and until serviced
  - ☐ Return to Warehouse ASAP for service - LET THE WAREHOUSE KNOW IT IS FAULTY
- **Prevention of Fire Extinguisher Violations**
  - ☐ Perform monthly inspections
  - ☐ Inspect fire extinguishers received from the warehouse and others prior to use
  - ☐ Include a quick visual inspection in your "daily project safety inspections"



## **FIRST AID / CPR PROGRAM**

### **Purpose**

The purpose of this First Aid / CPR Program is to document the guidelines for trained employees to follow when providing care for a victim. Clancy & Theys is dedicated to providing trained personnel to respond to the First Aid and CPR emergencies that employees may have. All employees will have an increased level of safety and comfort in knowing that there are trained employees on site to provide immediate care for them in case they are injured or become sick. This program will serve as a guide for treating victims when injuries and illnesses do occur.

### **Policy**

It is our company's policy that employees who are currently trained in First Aid, CPR, and Blood borne Pathogens shall administer care only to the level of their training. These trained employees shall follow the requirements, guidelines, techniques, and procedures as required by OSHA, American Red Cross, and those listed in this program. All supervisors shall ensure that their employees know who the trained persons are in their area or on their jobsite, in case of an employee injury or illness.

### **General Information**

First aid is the immediate care given to the victim of an accident or sudden illness until emergency medical care can be administered. First aid providers must be able to determine whether life-threatening conditions exist and know how to care for such injuries until emergency medical care is available. It is not only important to know what to do but also what NOT to do. Injured persons should never be moved unless there is an immediate threat to the victim's life. For example, a victim in a burning vehicle would be moved immediately regardless of his or her condition. Otherwise moving a victim may compound the injury and may even cause death.

### **First Aid Equipment and Personnel**

- The amount and the type of first aid equipment needed will vary with the size and location of each construction jobsite. Small jobs of relatively short duration will have different requirements than larger jobs or jobs in remote areas. Regardless of the job size and conditions, at least one properly trained person shall be assigned first aid responsibilities and supplies will be stocked at each jobsite.
- An adequate first aid kit should be supplied. For example: If there are 10 employees on site then a 10-person first aid kit is required. The contents of the kit shall be checked weekly and missing items should be replaced on a regular schedule. Most of our projects will be serviced by a First Aid supply company. Each site superintendent is to set the schedule with the supply company to service our account.
- These first aid supplies should be centrally located in the work area. Every worker shall be familiar with the first aid kit location.
- Each company owned field vehicle shall be equipped with a first aid kit and a fire extinguisher.

### **Treatment**

In cases of severe bleeding, and/or cases where breathing has stopped, immediate action is required. In cases other than these, first aid responders can take additional time to assess the situation. The scene safety shall always be checked prior to administering care.

## **First Aid and CPR (cont.)**

### **Bleeding (See Blood borne Pathogens Program)**

- Bleeding is best controlled by applying direct pressure to the wound with a dressing or cloth. A sterile dressing should be used if available. Otherwise, any clean cloth may be applied. A bandage may be snugly applied over the dressing or cloth to hold it in place.
- Extreme care should be taken by the first aid provider when there is a potential for coming into direct contact with blood or other bodily fluids. First aid supplies should include, at a minimum, latex gloves, safety glasses, and a pocket mask for protection against contact with blood and body fluids. (See Blood borne Pathogens Program)
- Usually, the victim should lie flat. If the victim is bleeding from an arm or leg and you do not suspect a fracture, slightly elevate the limb above the level of the heart.
- Sometimes direct pressure alone will not control bleeding. In such cases, the first aid provider can reduce the bleeding by applying pressure against the artery that supplies the bleeding area. If the arm is bleeding, pressure should be applied on the inner side of the arm between the shoulder and the elbow. This presses the brachial artery against the bone and reduces the blood flow. In cases of bleeding from the leg, pressure should be applied in the groin area by pressing the femoral artery against the pelvic bone.
- Always use direct pressure on the wound in addition to pressure on the artery.

### **Rescue Breathing and CPR**

- Asphyxiation may result when a victim's oxygen supply is cut off or reduced. Common causes include electric shock and suffocation. Whenever breathing has stopped, IMMEDIATE ACTION IS NECESSARY. Every second counts. Have a bystander summon emergency medical care (911) immediately. A designated first aid provider should begin rescue breathing or cardiopulmonary resuscitation (CPR) immediately in accordance with his or her professional training.
- Care should be taken by the first aid provider when there is a potential for coming into direct contact with body fluids. A pocket mask should be used when rescue breathing is performed.

### **Shock**

- Signs of shock include confused behavior, weakness, very fast breathing, very fast heart rate, very slow breathing, very slow heart rate, cool moist skin, pale or bluish skin, lips and fingernails and enlarged pupils.
- Keep the victim lying down. Except as noted below, elevate the victim's feet 8 to 12 inches. If the victim is on the floor or ground, place pillows or substitutes beneath the victim's calves. **Do not elevate:**
  1. If there is a head injury
  2. If breathing difficulty is thereby increased
  3. If the victim complains of pain, for example at a fracture site in the lower extremity or abdominal pain



## **First Aid and CPR (cont.)**

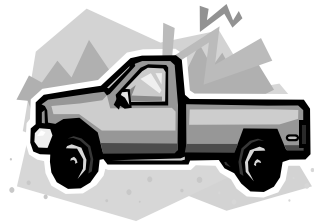
### **Fractures**

- Keep the broken ends of the fracture and the adjacent joints immobilized. Trained first aid providers should splint fractures when possible to ensure immobilization.
- Give first aid for shock.
- If the fracture is compound, control bleeding by direct pressure. Do not push a protruding bone back into place.

### **Transportation**

- Never move an injured person unless it is absolutely necessary to protect the person from further injury. Always bring the emergency medical personnel and/or vehicles to the injured person.
- If the victim must be pulled to safety to prevent further injury or death, pull the victim in the direction of the long axis of the victim's body, not sideways. The danger is reduced if a blanket or similar object can be placed beneath the victim, so that the victim can ride in the blanket.
- If a person must be lifted to safety to prevent further injury or death, the carriers should try to protect all parts of the victim's body from the tensions of lifting. An attempt should be made to give adequate support to each extremity, the head, and the back, keeping the entire body in a straight line and keeping it as immobile as possible.
- The importance of first aid availability on the job site cannot be overemphasized. OSHA 1926.50(c) Subpart D requires the employer to provide a person on the job site who has a valid certificate in first aid training from the American Red Cross, US Bureau of Mines, or equivalent training when medical assistance is not reasonably accessible in terms of time or distance to the site. The latest information is that OSHA is using "*fifteen minutes*" as a rule of thumb for "*reasonably accessible*".

## FLEET VEHICLE SAFETY MANUAL



### **Policy**

The Clancy & Theys Fleet Vehicle Safety Program is designed to reduce accidents, injuries, and costs associated with operating company vehicles and to enhance awareness of driver safety. The Fleet Vehicle Safety Program is administered by the Safety Director.

Accident prevention is the primary objective because:

- Accident prevention is good business.
- Clancy & Theys' policies dictate that employees support highway safety.
- Any accident, regardless of severity, can affect the safety, health, and well-being of employees and the general public.
- Accidents are costly, time consuming, and increase operating costs as well as insurance premiums.

### **Operation of Company Owned Vehicles**

Clancy & Theys is interested in the personal safety of both its employees and the general public. Company policy provides that company vehicles be operated only:

- When the vehicle is in good, safe mechanical condition
- When the driver is free from the influence of alcohol, mind-altering substances, or medical conditions which may impair one's ability to operate a motor vehicle safely
- In accordance with all traffic laws, signals and markings, with additional consideration for weather and traffic conditions
- In accordance with the principles of defensive driving, the driver being always on the alert and prepared to compensate for the unpredictable actions of other drivers and pedestrians
- In a courteous manner at all times, with consideration for other drivers and pedestrians

### **Data Required On Drivers Of Clancy & Theys Vehicles**

#### ***Pre-employment Requirements***

Selection of drivers of Clancy & Theys vehicles begins prior to actual employment. The applicant must provide Clancy & Theys with the following information:

- Current drivers license valid within the state in which the employee is hired.
- Prospective employee that will drive a company vehicle may be subject to a drug screen test.  
*Company policy states in cases where a positive drug and alcohol test is confirmed, the employee will be immediately terminated. Upon providing satisfactory evidence of receiving professional help in the area of substance abuse the employee may reapply and will be considered for rehire.*
- Motor Vehicle Records (MVRs) will be reviewed by Management as a part of the overall background investigation.  
*If a MVR indicates, within the last three years, a conviction of a moving violation, conviction of driving under the influence of drugs or alcohol, or multiple accidents in a 12-month period, then the applicant may have restrictions placed on his/her privileges of operating a company vehicle.*

## **Fleet Vehicles (cont.)**

### ***Current Employee Requirements***

Clancy & Theys will obtain annual MVRs on all drivers who operate company vehicles as part of its ongoing Fleet Vehicle Safety Program.

### **Authorized Drivers and Passengers**

Only authorized and licensed Clancy & Theys, Inc. employees may operate company vehicles. Personal use of assigned vehicle is restricted to commuting to and from work. Non-employees of Clancy & Theys are prohibited from driving and are discouraged from being a passenger in Clancy & Theys' vehicles. Officers and Department Managers of Clancy & Theys are exempt from the personal use policy.

### **Vehicle Safety Equipment**

Clancy & Theys will provide each company vehicle with the following safety equipment:

- First Aid Kit
- Fire Extinguisher
- Reflective Safety Vest
- Flashlight
- Tire Pressure Gauge
- Vehicle Accident Report

These items are to be kept in the vehicle at all times, inspected monthly, and maintained in proper working condition.

### **Safety Rules When Operating A Company Vehicle**

- Drivers and passengers must wear seat belts and shoulder harnesses when operating Clancy & Theys vehicles.
- Only authorized and licensed employees may operate Clancy & Theys vehicles.
- All accidents/incidents and injuries, regardless of severity, must be reported to your supervisor immediately.
- Any driver authorized to operate a Clancy & Theys vehicle that has had his or her state vehicle operators license suspended, revoked, or terminated without renewal, shall immediately notify your supervisor and must discontinue further operation of any company owned vehicle. Failure to do so will result in disciplinary action up to and including termination of employment.
- Each driver is responsible for ensuring that his or her vehicle is in safe operating condition prior to driving. Vehicle defects must be reported immediately and repaired. A Vehicle Inspection Report shall be completed once a month and turned in to the Fleet Manager for review. Forms will be given to drivers monthly.
- Drivers are responsible for ensuring the security of company vehicles and their contents. All contents of the vehicle shall be secured as not to become dislodged or as to create a hazard. Unattended vehicles must be legally parked with the engine off, parking brake applied, ignition keys removed, windows closed, and doors locked.
- Drivers must obey posted speed limits. In the event of adverse driving conditions, speed should be reduced to a safe operating speed consistent with the conditions of the road, weather, light, and traffic.
- Drivers must obey all traffic signs/signals and posted regulations. As with the speed limit, existing conditions may warrant adjustment to driving behavior.

## **Fleet Vehicles (cont.)**

- Drivers are required to maintain a safe following distance at all times. To measure this space cushion, when the vehicle ahead of you in your lane passes a highway mark, start counting – one thousand one, one thousand two, one thousand three. If you arrive at the same point before you finish counting, you don't have an adequate space cushion and need to allow more room between your vehicle and the one ahead.
- When stopping in traffic, drivers are required to maintain adequate distance from the car in front of them to prevent rolling into the car or being pushed into it if struck from behind. It is required that, when stopped behind a car, a driver be able to see the road below the tires of the car in front of them.
- Drivers are required to yield the right-of-way at all traffic controls, signals, and signs requiring same as well as when the action demonstrates good defensive driving and may prevent an accident. Examples of which action is important include parking lots, driveways, and unmarked intersections.
- Drivers are required to look behind their vehicle to ensure that no hazards are present before making any backing maneuvers. When more than one person is in the vehicle, one of the occupants should exit the vehicle and be a spotter for the driver before making any backing maneuvers.
- No driver shall operate any Clancy & Theys vehicle if his or her ability to do so safely has been impaired by alcohol, drugs, medication, illness, or fatigue.
- At all times when operating a company vehicle, drivers are required to use good judgment, practice defensive driving principles and be prepared to take appropriate action to avoid an accident. Appropriate actions may include sounding the horn, braking, speeding up or slowing down, turning away, or maintaining speed or position.
- When it is necessary to park your vehicle on an incline or slope, the driver shall set the emergency brake before exiting the vehicle.
- No one under any circumstances is to ride in the rear of a pickup or open bed truck.
- Failure to observe any of these General Safety Rules could result in disciplinary actions.

## **Accidents**

All accidents will be reviewed by management to determine the following:

- Cause
- Preventability or non-preventability
- Chargeable or non-chargeable

Failure to report any injury, accident or damage to the company vehicle, or failure to provide full disclosure of accident details, constitutes a violation of company policy which will result in disciplinary action up to and including termination. This includes drivers who turn vehicles in with unreported damage.

Accident frequency or serious moving violations will initiate a management review which may result in disciplinary action up to and including termination.

Employee driver performance will be part of their performance review.

## **What You Should Do In Case Of an Accident**

- Stop at once and park safely.
- Call for the police, regardless of the severity of the accident. If there are injuries, ask for a doctor and ambulance.
- **COMPETELY FILL OUT A VEHICLE ACCIDENT REPORT** – Located in glove compartment at all times

## **Fleet Vehicles (cont.)**

- Do not admit liability.
- Exchange information with the other driver, including address, phone numbers, license plate numbers, and insurance companies. Do not rely on a police report. Police reports may be incomplete, inaccurate, or not even written if the accident does not fall within police parameters. Make every effort to have a police report filed.
- Do not assume the damage will not be costly. Don't be in a hurry to leave the accident scene without full information. If the police cannot come to the accident location, go to the nearest police station and file a bench report.
- Don't say too much, even if you are angry. Statements made at the scene of an accident may be legally damaging.
- Look around for a witness, Ask: "Did you see the accident? Can I have your name and phone number?" Request a business card or other ID, Most people look up at the sound of a collision, but may not have actually have seen the accident.
- If there are no witnesses, make notes. Be as accurate as possible. Draw a diagram to clarify a dispute involving, for example, a traffic light or highway lane change. Take many pictures, from several angles if you have a camera.
- Report the accident as soon as possible while the details are fresh on your mind. Insurance coverage may be jeopardized if an accident report is not filled in a timely manner.
- Do not make any settlements on your own, nor sign any insurance company agreements or releases before consulting with the company's designated claims handler. You may think an insurance check covers medical care when it actually pays only for property damage.
- Note anything suspicious about your surroundings, the other car and its occupant(s), and the type of accident, particularly if it is a rear-end bump. If you suspect that your security or personal safety is endangered, drive to a police station or well-lighted public place, or keep honking your horn to attract attention and assistance.
- If the other party refuses to cooperate or leaves the scene of the accident, advise the police and secure the license plate number and make of the vehicle.
- Any accident or injury resulting from an accident must be reported to your supervisor immediately.



## Vehicle Accident Report

Police Report Must Be Obtained

Date: \_\_\_\_ / \_\_\_\_ / 20\_\_\_\_

Time: \_\_\_\_:\_\_\_\_ AM PM

Vehicle # \_\_\_\_\_ License Plate # \_\_\_\_\_

C&T Branch ☐Raleigh ☐Wilmington ☐Newport News ☐Orlando ☐Charlotte

Driver of C&T Vehicle: \_\_\_\_\_  
Driver's Name – Printed  
\_\_\_\_\_, \_\_\_\_\_  
Driver's License Number and State

Location of Accident \_\_\_\_\_, \_\_\_\_\_ State  
Street Name City

Weather Conditions ☐Sunny ☐Cloudy ☐Rain ☐Snow ☐Ice  
Road Conditions ☐Wet ☐Dry ☐Snow / Ice ☐Gravel

Other Driver Information: \_\_\_\_\_  
Driver's Name Printed

\_\_\_\_\_  
Driver's Address

\_\_\_\_\_  
Driver's Phone #

\_\_\_\_\_  
Vehicle Owner if other than Driver

\_\_\_\_\_  
Driver's License #

\_\_\_\_\_  
Vehicle Plate Number

\_\_\_\_\_  
State

\_\_\_\_\_  
Vehicle Make

\_\_\_\_\_  
Vehicle Model

\_\_\_\_\_  
Vehicle Year

\_\_\_\_\_  
Vehicle Insured by

\_\_\_\_\_  
Insurance Policy #

\_\_\_\_\_  
Insurance Agent

\_\_\_\_\_  
Insurance Agent Address & Phone #

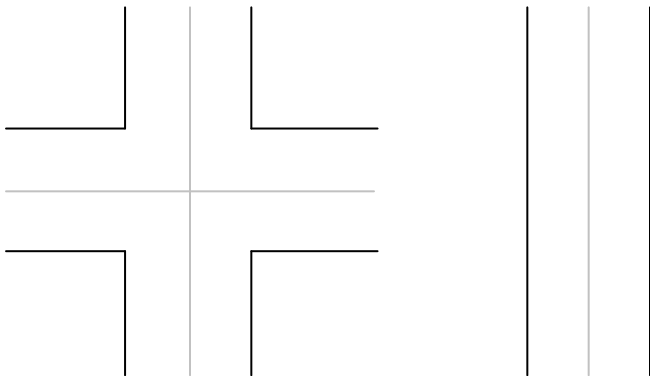
Describe Damage to Other Vehicle \_\_\_\_\_  
\_\_\_\_\_

# of Persons in the Other Vehicle \_\_\_\_\_

Witness \_\_\_\_\_  
Name Printed \_\_\_\_\_ Phone Number \_\_\_\_\_  
Address \_\_\_\_\_

Witness \_\_\_\_\_  
Name Printed \_\_\_\_\_ Phone Number \_\_\_\_\_  
Address \_\_\_\_\_

Witness \_\_\_\_\_  
Name Printed \_\_\_\_\_ Phone Number \_\_\_\_\_  
Address \_\_\_\_\_



\_\_\_\_\_  
\_\_\_\_\_



# **FORKLIFT - POWERED INDUSTRIAL TRUCK SAFETY PROGRAM**



## **Purpose**

The purpose of the Forklift Safety Program is to heighten the awareness of the hazards involved in operating and working around a forklift. The most important reasons for a forklift safety program is Personnel Safety, Product Safety, Equipment Damage, and Building Damage.

The worker is a company's most important commodity, therefore, Clancy & Theys will insure that competent persons are chosen then well trained to operate our forklifts. The next most important commodity is our product and property. Again, we will rely on competent well-trained personnel to operate our lifts safely and professionally.

## **Policy**

Only trained and authorized persons will operate a forklift of any type. Clancy & Theys will provide thorough training for anyone required to operate a forklift prior to use. Any untrained / unauthorized employee found operating a lift or not following the proper operating procedures will receive disciplinary action against them up to termination of employment.

## **Training**

### **Selection of Personnel**

Supervisors of Clancy & Theys are responsible for selecting and providing the proper training to the operators. It is important that these individuals have the necessary training and are able and willing to perform their jobs properly.

### **Safe operation**

Supervisors of Clancy & Theys shall ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely as demonstrated by the successful completion of the training and evaluation specified in this program.

Prior to permitting an employee to operate a powered industrial truck (except for training purposes), the employer shall ensure that each operator has successfully completed the training required in this manual.

### **Training program implementation**

Trainees may operate a powered industrial truck only:

- Under the direct supervision of persons who have the knowledge, training, and experience to train operators and evaluate their competence; and
- Where such operation does not endanger the trainee or other employees.

Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.



## **Forklift - Powered Industrial Truck (cont.)**

Clancy & Theys will ensure that all operator training and evaluations shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

### **Training Program Content**

Powered industrial truck operators shall receive initial training in the following topics, with the exception of topics which are designated “not applicable” to safe operation of the truck in our workplace:

#### **Truck-related topics:**

- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate
- Differences between the truck and the automobile
- Truck controls and instrumentation: where they are located, what they do, and how they work
- Engine or motor operation
- Steering and maneuvering
- Visibility (including restrictions due to loading)
- Fork and attachment adaptation, operation, and use limitations
- Vehicle capacity
- Vehicle stability
- Any vehicle inspection and maintenance that the operator will be required to perform
- Refueling and/or charging and recharging of batteries
- Operating limitations
- Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle the employee is being trained to operate

#### **Workplace-related topics:**

- Surface conditions where the vehicle will be operated
- Composition of loads to be carried and load stability
- Load manipulation, stacking, and un-stacking
- Pedestrian traffic in areas where the vehicle will be operated
- Narrow aisles, roads and other restricted places where the vehicle will be operated
- Hazardous (classified) locations, if any, where the vehicle will be operated
- Ramps and other sloped surfaces that could affect the vehicle's stability
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation

### **Refresher training and evaluation**

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted as required to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely. *An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years*

Refresher training in relevant topics shall be provided to the operator when:

- The operator has been observed to operate the vehicle in an unsafe manner
- The operator has been involved in an accident or near-miss incident
- The operator has received an evaluation that reveals that the operator is not operating the truck safely
- The operator is assigned to drive a different type of truck
- A condition in the workplace changes in a manner that could affect safe operation of the truck

## **Forklift - Powered Industrial Truck (cont.)**

### **Avoiding duplicate training**

If an operator has previously received training in a topic specified in sections “*Truck Related Topics & Workplace Related Topics*”, and such training is appropriate to the truck and working conditions encountered, additional training in that topic is not required if evaluation has found the operator competent to operate the truck safely.

### **Certification**

Clancy & Theys shall certify that each operator has been trained and evaluated as required by this program. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

### **Operating Procedures**

As a minimum, supervisors and forklift operators should ensure that the following safety requirements are complied with:

- No part of a load must pass over any worker.
- A lift truck left unattended must be immobilized and secured against accidental movement and forks, buckets or other attachments must be in the lowered position or firmly supported.
- No load may exceed the maximum rated load and loads must be handled in accordance with the height and weight restrictions on the vehicle's load chart.
- When a load is in the raised position, the controls must be attended by an operator at all times.
- If an operator does not have a clear view, a signaler who has been instructed in a code of signals for managing traffic in the workplace must be used.
- Loads must be carried as close to the ground or floor as the situation permits.
- Loads that may tip or fall and endanger a worker must be secured.
- Where a lift truck is required to enter or exit a vehicle to load or unload, that vehicle must be immobilized and secured against accidental movement.
- A lift truck must not be used to support, raise or lower a worker on a construction site unless a safety platform design by an engineer is utilized.
- Barriers, warning signs, designated walkways or other safeguards must be provided where pedestrians are exposed to the risk of collision.

### **Co-worker Safety**

- Never carry hitchhikers--they can easily fall off and become injured.
- If co-workers are on a safety platform, always ensure that the platform is securely attached to the forklift and personnel are wearing proper personal protective equipment (e.g., hardhat and safety belt).
- Never travel with co-workers on the platform.
- Watch out for overhead obstructions.

### **Pedestrian Safety**

Pedestrians working nearby should be sure to keep a safe distance from forklifts. That means staying clear of the forklift's turning radius and making sure the driver knows where you are.



## **FORKLIFT TRUCK OPERATORS SAFETY SKILLS RATING**

**(This is a 3-part form)**

### **Part 1**

#### **Physical examination of lift truck (touch and tell)**

The objective of this rating sheet is to ensure that employee(s) understand the mechanics of the lift truck as well as all items that involve standard checking prior to driving the lift truck.

The operator (Trainee) should be familiar with the features of the lift truck. This can be evaluated by having the operator demonstrate and describe the following:

- ☐ Proper use of tilt
- ☐ Proper use of raise / lower mechanism
- ☐ Proper use of horn
- ☐ Check for oil leaks
- ☐ Check mast chains
- ☐ Check tilt and lift cylinders for wear and/or leakage
- ☐ Check brakes
- ☐ Check tires and wheels
- ☐ Check hour meter
- ☐ Check scissors reach
- ☐ Check warning light
- ☐ Check rear view mirror
- ☐ Check battery retainer
- ☐ Check discharge indicator
- ☐ Check back up alarm
- ☐ Check hose and hose reel
- ☐ Check light on overhead guard
- ☐ Know capacity of lift truck

Trainee must receive a score of 85% or higher to pass.

☐ Pass    ☐ Fail

Trainee: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Instructor:** \_\_\_\_\_

Equipment Make: \_\_\_\_\_

Equipment Model: \_\_\_\_\_

**Forklift – Powered Truck Operators’ Skills Rating (cont.)**  
**(This is a 3-part form)**

## **Part 2**

### **Knowledge of safeguards within the facility**

The operator (Trainee) is asked to identify many safety items at the dock and battery recharging area, as well as overall safety.

- ☐ Dock Area
- ☐ Battery Charging Area
- ☐ Wheel chocking
- ☐ Protective equipment
- ☐ Dock plate
- ☐ Acid neutralizing
- ☐ Trailer lighting
- ☐ MSDS
- ☐ Condition of trailer floor
- ☐ No smoking
- ☐ Keep clear of dock loading area
- ☐ Plug/unplug procedures
- ☐ Be aware of warning and information signs
- ☐ Clean-up procedures
- ☐ Correct height of empty pallets
- ☐ Eyewash station
- ☐ Commercial battery rules
- ☐ Fire and Safety
- ☐ Personal Safety
- ☐ Location of extinguishers
- ☐ Use of eye protection during banding operations
- ☐ Type of extinguisher to use
- ☐ How to use extinguisher

Trainee must receive a score of 85% or higher to pass.

☐Pass    ☐Fail

Trainee: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Instructor:** \_\_\_\_\_

Equipment Make: \_\_\_\_\_

Equipment Model: \_\_\_\_\_

**Forklift – Powered Truck Operators’ Skills Rating (cont.)**  
**(This is a 3-part form)**

## **Part 3**

### **Operating Skills Evaluation**

Determine the operating skills of the employees by making a full evaluation while operating the lift truck.

- ☐ Did the operator pull forward toward the designated section of racking without endangering anyone?
- ☐ Did the operator place the forks under the pallet properly?
- ☐ Did the operator raise or tilt the load properly?
- ☐ Did any part of the container strike any section of racking while removing the pallet?
- ☐ Did the operator lower the pallet before moving or backing out? (Don't drive and lower the pallets at the same time.)
- ☐ Did the operator drive at a safe speed?
- ☐ Did the operator slow down or stop at cross aisles?
- ☐ Did the operator sound the horn at blind intersections?
- ☐ Did the operator pull into the racking area properly to place the pallet back in the racking?
- ☐ Did the operator strike any racking on the way up or going into the rack?
- ☐ Did the operator back out and lower the forks before moving?
- ☐ Did the operator always look behind before backing up?
- ☐ Was the operator wearing protective equipment?
- ☐ Did the operator drive around the block of wood or obstacle on the floor, or get out of the truck and remove it?
- ☐ Did the operator set the load flat on the floor before getting out of the truck?
- ☐ Did the operator put on a hardhat before getting out of the truck?
- ☐ Did the operator perform any moves that were potentially dangerous?

Trainee must receive a score of 85% or higher to pass.

☐Pass    ☐Fail

Trainee: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Instructor:** \_\_\_\_\_

Equipment Make: \_\_\_\_\_

Equipment Model: \_\_\_\_\_

## HAND AND POWER TOOLS SAFETY PROGRAM



### **Purpose**

This program is designed to present to our employees a summary of the basic safety procedures and safeguards associated with hand and portable power tools.

Tools are such a common part of our lives that it is difficult to remember that they may pose hazards. Tragically, a serious incident can occur before steps are taken to identify and avoid or eliminate tool-related hazards. Employees who use hand and power tools and are exposed to the hazards of falling, flying, abrasive, and splashing objects, or to harmful dusts, fumes, mists, vapors, or gases must be provided with the appropriate personal protective equipment. All electrical connections for these tools must be suitable for the type of tool and the working conditions (wet, dusty, flammable vapors). When a temporary power source is used for construction a ground-fault circuit interrupter should be used.

Employees should be trained in the proper use of all tools. Workers should be able to recognize the hazards associated with the different types of tools and the safety precautions necessary.

### **Basis Safety Rules**

Basic safety rules can help prevent hazards associated with the use of hand and power tools:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use and do not use damaged tools.
- Operate tools according to the manufacturer's instructions.
- Provide and use properly the right personal protective equipment.
- Workplace floors shall be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

### **Training**

Training is a must when it comes to the safe operation of hand and power tools. The supervisor will be responsible for ensuring the employees have been trained in the following prior to use.

- Manufacturer's recommended operating procedures
- Required personal protective equipment and accessories
- Hazards associated with the tool
- Limitations of the tool or accessories
- Proper care and maintenance

### **Responsibility**

According to the OSHA standards, Clancy & Theys is responsible for the safe condition of tools and equipment used by our employees. Clancy & Theys shall not issue or permit the use of unsafe hand tools regardless of who owns the tool(s).

Supervisors shall periodically check tools owned by Clancy & Theys for excessive wear and damage. Tools found to be in an unsafe condition will be immediately tagged out of service until repaired or discarded. Faulty tools will not be given to anyone for home use.

## **Hand and Power Tools (cont.)**

### **Hand Tools Safety**

Hand tools are tools that are powered manually. Hand tools include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance.

#### **General Safety Precautions:**

- If a chisel is used as a screwdriver, the tip of the chisel may break and fly off, hitting the user or other employees.
- If a wooden handle on a tool, such as a hammer or an axe, is loose, splintered, or cracked, the head of the tool may fly off and strike the user or other employees.
- If the jaws of a wrench are sprung, the wrench might slip.
- If impact tools such as chisels, wedges, or drift pins have mushroomed heads, the heads might shatter on impact, sending sharp fragments flying toward the user or other employees.
- Employees, when using saw blades, knives, or other tools, should direct the tools away from aisle areas and away from other employees working in close proximity.
- Knives and scissors must be sharp; dull tools can cause more hazards than sharp ones.
- Cracked saw blades must be removed from service.
- Wrenches must not be used when jaws are sprung to the point that slippage occurs.
- Impact tools such as drift pins, wedges, and chisels must be kept free of mushroomed heads.
- The wooden handles of tools must not be splintered.
- Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Where this hazard exists, spark-resistant tools made of non-ferrous materials should be used where flammable gases, highly volatile liquids, and other explosive substances are stored or used.
- Appropriate personal protective equipment such as safety goggles and gloves must be worn to protect against hazards that may be encountered while using hand tools.

### **Power Tool Safety**

Power tools must be fitted with guards and safety switches; they are extremely hazardous when used improperly. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

#### **General Safety Precautions:**

To prevent hazards associated with the use of power tools, workers should observe the following general precautions:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not using them, before servicing and cleaning them, and when changing accessories such as blades, bits, and cutters.
- Keep all people not involved with the work at a safe distance from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Maintain tools with care - keep them sharp and clean for best performance.
- Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance when operating power tools.
- Wear proper apparel for the task. Loose clothing, ties, or jewelry can become caught in moving parts.
- Remove all damaged portable electric tools from use and tag them: "Do Not Use."

## **Hand and Power Tools (cont.)**

### **Guards**

The exposed moving parts of power tools need to be safeguarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.

Machine guards, as appropriate, must be provided to protect the operator and others from the following:

- Point of operation
- In-running nip points
- Rotating parts
- Flying chips and sparks

Safety guards must never be removed when a tool is being used. Portable circular saws having a blade greater than 2 inches in diameter must be equipped at all times with guards.

An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except where it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work material.

### **Operating Controls and Switches**

The following hand-held power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released: drills, tappers, fastener drivers, horizontal, vertical, and angle grinders with wheels more than 2 inches in diameter, disc sanders with discs greater than 2 inches, belt sanders, reciprocating saws, saber saws, scroll saws, and jigsaws with blade shanks greater than 1/4-inch wide, and other similar tools.

These tools also may be equipped with a “lock-on” control, if it allows the worker to also shut off the control in a single motion using the same finger or fingers. The following hand-held power tools must be equipped with either a positive “on-off” control switch, a constant pressure switch, or a “lock-on” control: disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter, platen sanders, routers, planers, laminate trimmers, nibblers, shears, and scroll saws, and jigsaws, saber and scroll saws with blade shanks a nominal 1/4-inch or less in diameter.

It is recommended that the constant-pressure control switch be regarded as the preferred device. Other hand-held power tools such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools with no means of holding accessories securely, must be equipped with a constant-pressure switch.

### **Electric Tools**

Employees using electric tools must be aware of several dangers. Among the most serious hazards are electrical burns and shocks. Electrical shocks, which can lead to injuries such as heart failure and burns, are among the major hazards associated with electric powered tools. Under certain conditions, even a small amount of electric current can result in fibrillation of the heart and death. An electric shock also can cause the user to fall off a ladder or other elevated work surface and be injured or killed due to the fall.

To protect the user from shock and burns, electric tools must have a three-wire cord with a ground and be plugged into a grounded receptacle, be double insulated, or be powered by a low voltage isolation transformer.



## **Hand and Power Tools (cont.)**

### **Electric Tools – Continued**

Three-wire cords contain two current carrying conductors and a grounding conductor. Any time an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong must never be removed from the plug.

Double-insulated tools are available that provide protection against electrical shock without third-wire grounding. On double insulated tools, an internal layer of protective insulation completely isolates the external housing of the tool.

The following general practices should be followed when using electric tools:

- Operate electric tools within their design limitations.
- Use gloves and appropriate safety footwear when using electric tools.
- Store electric tools in a dry place when not in use.
- Do not use electric tools in damp or wet locations unless they are approved for that purpose.
- Keep work areas well lighted when operating electric tools.
- Ensure that cords from electric tools do not present a tripping hazard.

In the construction industry, employees who use electric tools must be protected by ground-fault circuit interrupters or an assured equipment-grounding conductor program.

### **Portable Abrasive Wheel Tools**

Portable abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments. Abrasive wheel tools must be equipped with guards that:

1. cover the spindle end, nut, and flange projections;
2. maintain proper alignment with the wheel; and
3. do not exceed the strength of the fastenings.

Before an abrasive wheel is mounted, it must be inspected closely for damage and should be sound-or ring-tested to ensure that it is free from cracks or defects. To test, wheels should be tapped gently with a light, non-metallic instrument. If the wheels sound cracked or dead, they must not be used because they could fly apart in operation. A stable and undamaged wheel, when tapped, will give a clear metallic tone or “ring.”

To prevent an abrasive wheel from cracking, it must fit freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flange. Always follow the manufacturer’s recommendations. Take care to ensure that the spindle speed of the machine will not exceed the maximum operating speed marked on the wheel.

An abrasive wheel may disintegrate or explode during start-up. Allow the tool to come up to operating speed prior to grinding or cutting. The employee should never stand in the plane of rotation of the wheel as it accelerates to full operating speed. Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of wheel breakage.

When using a powered grinder:

- Always use eye or face protection.
- Turn off the power when not in use.

## **Hand and Power Tools (cont.)**

- Never clamp a hand-held grinder in a vise.

### **Pneumatic Tools**

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders.

There are several dangers associated with the use of pneumatic tools. First and foremost is the danger of getting hit by one of the tool's attachments or by some kind of fastener the worker is using with the tool.

Pneumatic tools must be checked to see that the tools are fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

If an air hose is more than 1/2-inch in diameter, a safety excess flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure.

In general, the same precautions should be taken with an air hose that are recommended for electric cords, because the hose is subject to the same kind of damage or accidental striking, and because it also presents tripping hazards.

When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer from being ejected during tool operation.

Pneumatic tools that shoot nails, rivets, staples, or similar fasteners and operate at pressures more than 100 pounds per square inch must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work surface.

Airless spray guns that atomize paints and fluids at pressures of 1,000 pounds or more per square inch must be equipped with automatic or visible manual safety devices that will prevent pulling the trigger until the safety device is manually released.

Eye protection is required, and head and face protection is recommended for employees working with pneumatic tools.

Screens must also be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. Workers should never "dead-end" them against themselves or anyone else. A chip guard must be used when compressed air is used for cleaning.

Use of heavy jackhammers can cause fatigue and strains. Heavy rubber grips reduce these effects by providing a secure handhold. Workers operating a jackhammer must wear safety glasses and safety shoes that protect them against injury if the jackhammer slips or falls. A face shield also should be used.

Noise is another hazard associated with pneumatic tools. Working with noisy tools such as jackhammers requires proper, effective use of appropriate hearing protection.

## **Hand and Power Tools (cont.)**

### **Liquid Fuel Tools**

Fuel-powered tools are usually operated with gasoline. The most serious hazard associated with the use of fuel-powered tools comes from fuel vapors that can burn or explode and also give off dangerous exhaust fumes. The worker must be careful to handle, transport, and store gas or fuel only in approved flammable liquid containers, according to proper procedures for flammable liquids.

Before refilling a fuel-powered tool tank, the user must shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors. When a fuel-powered tool is used inside a closed area, effective ventilation and/or proper respirators such as atmosphere-supplying respirators must be utilized to avoid breathing carbon monoxide. Fire extinguishers must also be available in the area.

### **Powder-Actuated Tools**

Powder-actuated tools operate like a loaded gun and must be treated with extreme caution. Powder-actuated tools must be operated only by specially trained employees. These trained employees shall be able to show proof of training, upon being asked by a supervisor, for the specific model for which they are operating.

When using powder-actuated tools, an employee must wear suitable ear, eye, and face protection. The user must select a powder level—high or low velocity—that is appropriate for the powder-actuated tool and necessary to do the work without excessive force.

The muzzle end of the tool must have a protective shield or guard centered perpendicular to and concentric with the barrel to confine any fragments or particles that are projected when the tool is fired. A tool containing a high-velocity load must be designed not to fire unless it has this kind of safety device.

To prevent the tool from firing accidentally, two separate motions are required for firing. The first motion is to bring the tool into the firing position, and the second motion is to pull the trigger. The tool must not be able to operate until it is pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

If a powder-actuated tool misfires, the user must hold the tool in the operating position for at least 30 seconds before trying to fire it again. If it still will not fire, the user must hold the tool in the operating position for another 30 seconds and then carefully remove the load in accordance with the manufacturer's instructions. This procedure will make the faulty cartridge less likely to explode. The bad cartridge should then be put in water immediately after removal. If the tool develops a defect during use, it should be *tagged* and must be *taken out of service immediately* until it is properly repaired.

Safety precautions that must be followed when using powder-actuated tools include the following:

- Do not use a tool in an explosive or flammable atmosphere.
- Inspect the tool before using it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions and has the proper shield, guard, and attachments recommended by the manufacturer.
- Do not load the tool unless it is to be used immediately.
- Do not leave a loaded tool unattended, especially where it would be available to unauthorized persons.
- Keep hands clear of the barrel end.
- Never point the tool at anyone.

## **Hand and Power Tools (cont.)**

### **Powder-Actuated Tools – Continued**

When using powder-actuated tools to apply fasteners, several additional procedures must be followed:

- Do not fire fasteners into material that would allow the fasteners to pass through to the other side.
- Do not drive fasteners into very hard or brittle material that might chip or splatter or make the fasteners ricochet.
- Always use an alignment guide when shooting fasteners into existing holes.
- When using a high-velocity tool, do not drive fasteners more than 3 inches (7.62 centimeters) from an unsupported edge or corner of material such as brick or concrete.
- When using a high velocity tool, do not place fasteners in steel any closer than 1/2-inch (1.27 centimeters) from an unsupported corner edge unless a special guard, fixture, or jig is used.

### **Hydraulic Power Tools**

The fluid used in hydraulic power tools must be an approved fire resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The exception to fire-resistant fluid involves all hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools that are used on or around energized lines. This hydraulic fluid shall be of the insulating type.

The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

All jacks—including lever and ratchet jacks, screw jacks, and hydraulic jacks—must have a stop indicator, and the stop limit must not be exceeded. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack, and the load limit must not be exceeded.

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up. Put a block under the base of the jack when the foundation is not firm, and place a block between the jack cap and load if the cap might slip.

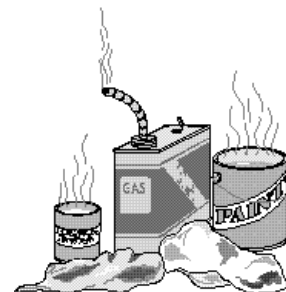
To set up a jack, make certain of the following:

- The base of the jack rests on a firm, level surface
- The jack is correctly centered
- The jack head bears against a level surface
- The lift force is applied evenly

Proper maintenance of jacks is essential for safety. All jacks must be lubricated regularly. In addition, each jack must be inspected according to the following schedule:

1. For jacks used continuously or intermittently at one site—inspected at least once every 6 months,
2. For jacks sent out of the shop for special work—inspected when sent out and inspected when returned,
3. And for jacks subjected to abnormal loads or shock—inspected before use and immediately thereafter.

## HAZARD COMMUNICATION PROGRAM



### **Policy**

Clancy & Theys is committed to providing a safe working environment for our employees. Our Hazard Communication Program is intended to comply with North Carolina OSHA Standards. This program applies to all working situations where our employees may be exposed to hazardous chemicals.

As a part of this program, Clancy & Theys employees will be informed of the contents of the Hazard Communication standard, the hazardous properties of chemicals they work with, safe handling and storage procedures, and the appropriate personal protection devices or equipment that may be required.

### **List of Hazardous Chemicals & MSDS Book**

Clancy & Theys home office will maintain a book containing all of the material safety data sheets for the chemicals used by our company. Each individual jobsite will also have a copy of this MSDS book. All employees will be made aware of the existence and location of the MSDS Book at each project.

The list of Hazardous Chemicals will be reviewed annually and the MSDS Book is to be revised if necessary.

If an MSDS book is not present employees may call the Raleigh Office, Monday thru Friday from 8a.m. - 5p.m., at 919-834-3601 x239 or x243 and an appropriate sheet will be faxed to you.

***IF AN MSDS SHEET IS NOT ACCESSABLE THEN THE HAZARDOUS  
SUBSTANCE IS NOT TO BE USED. NO EXCEPTIONS!***

### **Material Safety Data Sheets**

MSDS' will contain specific information about the chemicals used on our job sites. These MSDS' will be reviewed with an affected employee(s) before the hazardous substance is used. Employees will be informed as to the information they contain, the hazards associated with the chemicals, personal protective equipment (if needed), what to do if there is a chemical spill, and emergency first aid procedures.

As any new chemical or a different brand of chemical is purchased for use at Clancy & Theys, its MSDS will be added to the MSDS Book and the list of Hazardous Chemicals. New MSDS are required to be obtained on any chemicals that are currently being used when the containers are marked "New and Improved", "New Formula", "Now Safe for Use On..." or otherwise obviously changed.

### **Labels and Other Forms of Warning**

All Clancy & Theys employees will be instructed to read and understand the warning labels on the chemicals with which they are working. All chemicals used will be properly labeled with appropriate chemical identity, hazard warnings and the name and address of the manufacturer.

## **Hazard Communication (cont.)**

If employees transfer chemicals from a labeled container to an unlabeled container and the amount transferred is only intended for their *immediate use*, then no labels will be required, per the OSHA standard.

### **Training**

All employees who work with or could be exposed to hazardous chemicals will be trained on the safe use of these chemicals and working around them. Safe handling and storage of chemicals will be a regular topic discussed at safety meetings.

Additionally, employees will be informed of the potential health hazards associated with improperly using hazardous chemicals, how to read MSDS sheets and how to obtain MSDS sheets. When new chemicals are introduced, all employees will be thoroughly trained as to the hazards associated with that chemical, proper storage, and how to safely use that chemical.

Upon employment, each employee will be trained in the following:

- An overview of the requirements of the Hazard Communication Standard, including their rights under this regulation
- Information on where hazardous substances are present in their work areas
- The location and availability of the written Hazard Communication Program. A copy of the program will be available at the Clancy & Theys home office and in the Clancy & Theys Safety Manual on each Project Site
- The controls, work practices and personal protective equipment which are available for protection against possible exposure
- How to read labels and Material Safety Data Sheets (MSDS) to obtain the appropriate hazard information
- What to do if there is a chemical spill, proper authority notification procedures, and evacuation procedures

### **Non-Routine Tasks**

Infrequently, employees may be required to perform non-routine tasks which involve the use of hazardous substances. Prior to starting work on such projects, each involved employee will be given information by his/her supervisor about hazards to which they may be exposed during such an activity and how to protect themselves.

This information will include:

- The specific hazards and if protective/safety measures which must be utilized
- The measures the Company has taken to lessen the hazards, including special ventilation, respirators, the presence of other employees, air sample readings, and emergency procedures.

### **Material Safety Data Sheet Reference**

OSHA compliance officers may ask randomly selected employees on your job site if they are familiar with the Hazard Communications Program and if they know how to read a Material Safety Data Sheet (MSDS). They may also ask an employee if they know how to read a chemical label. The following is a reference for training on MSDS and chemical labels.

## **Hazard Communication (cont.)**

### **Location of MSDS Book**

The master MSDS book will be kept at the home office and on each project of Clancy & Theys. Refer to "**List of Hazardous Chemicals & MSDS Book**" section for complete information.

### **Chemical Hazard**

Most chemicals pose either a physical or health hazard that can be immediately harmful and/or cause life-long illness due to prolonged exposure. Examples of these hazards are:

- Burn skin or eyes
- Flammable
- Long-term physical damage or illness such as Cancer.
- React with other chemicals

### **Two Health Affects of Hazardous Materials**

- Acute: Rashes, burns, nausea, etc. immediately obvious
- Chronic: Symptoms that develop gradually due to repeated or long-term exposure

### **Route of Exposure for Hazardous Chemicals**

- Contact with skin or eyes can cause burns, rashes, allergies even blindness
- Inhaling can cause dizziness, nausea, headaches, lung damage, asphyxiation or even death
- Swallowing due to eating or smoking without washing your hands causes a risk of poisoning
- Injection: When skin is punctured with a contaminated sharp object

### **Information Found On Material Safety Data Sheets**

The MSDS is obtained from the hazardous substance manufacturer or supplier. Employees should become familiar with information on these sheets to avoid injury to themselves and fellow employees.

*Following is a description of the principle sections of an MSDS. Not all sections are relevant to your safety, but brief descriptions will be provided.*

#### *Section I-Identification of Product*

This identifies the chemical name, trade name or synonym, manufacturer's name, chemical formula, and emergency phone number for more detailed information.

#### *Section II-Hazardous Ingredients*

Hazardous ingredients are those substances which have been defined as hazardous due either to flammability characteristics or for their potential to have adverse health effects on the worker. The percentage of each hazardous ingredient in the product is provided, as well as the Threshold Limit Value.

#### *Section III-Physical Data*

This is primarily technical data used by chemists and industrial hygienists when doing calculations to determine the safe use parameters of the substance.

#### *Section IV-Fire and Explosion Hazard Data*

## **Hazard Communication (cont.)**

In this section, data is provided which describes the ability of the substance to burn or explode. The method for extinguishing a fire involving the substance is also provided. Pertinent data in this section is:

1. **Flash Point**-This is the lowest temperature at which the liquid gives off sufficient vapor to form an ignitable mixture with air and produce a flame when an ignition source is brought near the surface of the liquid.
2. **Extinguishing Media**-The type of fire extinguishing material to be used when a particular substance is burning.
3. **Special Fire Fighting Procedures**-These procedures describe the fire fighting equipment needed if the substance is involved in a fire. Some substances can give off toxic gases when burning; therefore, a special piece of personal protection equipment would be worn by persons fighting the fire. Talk to your supervisor regarding your actions in the event of a fire involving a hazardous substance.
4. **Unusual Fire and Explosion Hazards** - This section provides information on substance incompatibility or its ability to react with other substances to create a flammable atmosphere.

### *Section V-Health Hazard Data*

Data included in this section is very important to you. This information will help you recognize the effects of overexposure to a particular hazardous substance, and the emergency and first-aid procedures to follow in the event of overexposure.

#### **Terms & Definitions**

1. **Threshold Limit Value**- The value printed on the MSDS expresses the airborne concentration of material to which nearly all persons can be exposed day after day without adverse health effects. Threshold Limit Values (TLV) may be expressed in the following three ways: a) Time Weighted (TWA), b) Short Term Exposure Limit (STEL), and/or c) Ceiling Exposure Limit (C). The TLV is used by engineers and industrial hygienists as a guide in the control of health hazards.
2. **Effects of Overexposure**- Describes what physical effects might be felt (dizziness, headaches, skin irritation, dermatitis, etc.).
3. **Emergency and First-Aid Procedures**- Explains the procedures to follow should it become necessary to provide first-aid treatment to a person who may be overcome by a hazardous substance. The procedures may address exposures that occur through inhalation of the substance, contact with skin, or ingestion (swallowing).

### *Section VI-Reactivity Data*

This section presents information on reactive substances. Reactive substances are materials which, under certain environmental or induced conditions, enter into violent reaction with spontaneous generation of large quantities of heat, light, gases (flammable and nonflammable), or toxicants that can be destructive to life and property. Reactions occur often when incompatible materials are mixed together.



## **Hazard Communication (cont.)**

Information Found On Material Safety Data Sheets -- Continued

### *Section VI-Reactivity Data -- Continued*

Some loosely categorized types of reactive chemicals are:

- **Explosives**-(example: nitroglycerin), react to friction, heat, or shock
- **Acids**-Don't mix with sensitizers
- **Oxidizers**-Don't mix with reducers
- **Water Sensitizers**-Should not be mixed with water.
- **Pyrophors**- Substances that generate sparks or heat when friction is applied.

When reviewing a particular data sheet, note the conditions to avoid, and incompatibility (materials to avoid). In general, isolate from other potentially reactive substances. Use appropriate personal protection gear that is recommended in Section VIII-Special Protection Information.

### *Section VII-Spill or Leak Procedures*

This section gives directions to take certain actions in the event of a hazardous substance spill or leak. Do not attempt to contain a spill or leak by yourself. Get help from your supervisor.

### *Section VIII-Special Protection Information*

This section specifies the proper personal protection devices for specific situations. Types of recommended equipment will include respirators, goggles, face shield and safety glasses, gloves, protective aprons, footwear, etc.

Ventilation equipment will not necessarily be applicable. These requirements are based on amount used, container the substance is stored in, conditions use occurs in, etc.

### *Section IX-Special Precautions*

Describes proper storage and handling procedures. This section is important and provides many of the dos and don'ts associated with the substance. It will also alert you to situations to avoid when handling or storing the substance.

## **Container Labeling**

No container or hazardous substances should be released for use unless the container is correctly labeled and the label is legible.

All chemicals in bags, drums, barrels, bottles, boxes, cans, cylinders, reaction vessels, storage tanks, or similar containers should be checked by the receiving department or responsible person to ensure the manufacturer's label is intact, is legible, and the container has not been damaged in any manner during shipment. Any containers found to have damaged labels should be quarantined until a new label has been installed. When a bulk chemical is transferred to a smaller container for use, it must also be properly labeled unless all of the contents in the smaller container will be immediately used.

## Hazard Communication (cont.)

### Container Labeling - Continued

The label must contain:

- The chemical name of the contents
- The appropriate hazard warnings, the name and address of the manufacturer, and any other details of the chemical which are in the referenced container

### How to Read a Chemical Label: (NFPA Label)

- Labels contain the name of the manufacturer, chemical name, physical or health hazards, proper storage and any personal protective equipment required when using the chemical.

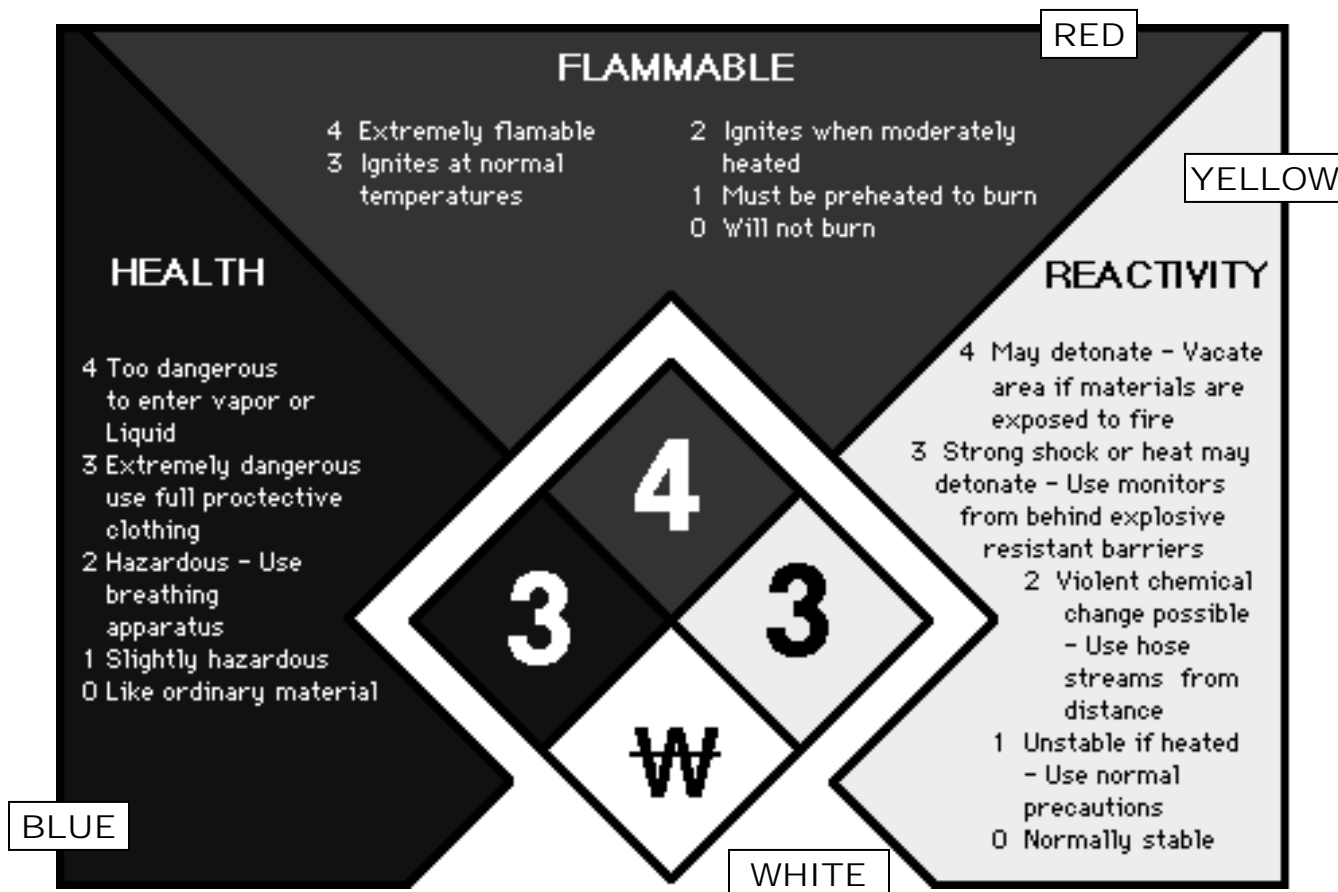
#### Color Coded:

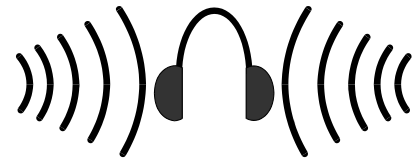
Red = Fire Hazard "Flammable"  
Yellow = Reactivity Hazard  
Blue = Health Hazard  
White = Additional Information  
= Severe Hazard

#### Number Coded:

0 = No Hazard  
1 = Slight Hazard  
2 = Moderate Hazard  
3 = Serious Hazard

*White Area of a Chemical Label may contain the Personal Protective Equipment or special instruction.*





## **Hearing Conservation Program**

### **Purpose**

Clancy & Theys is committed to preventing hearing loss for our employees. Occupational hearing loss is one of the most pervasive problems in today's occupational environment. At the present national average exposure limits, one in four will develop a permanent hearing loss as a result of their occupational exposure to noise hazards. The gradual progression of hearing loss due to noise may be less dramatic than an injury resulting from a workplace accident, but it is a significant and permanent handicap for the affected individual. Loss of hearing denies people sensory experiences that contribute to the quality of their lives. For some, loss of hearing may impede their ability to be gainfully employed. This tragedy *is* preventable.

### **Training**

Each employee exposed to a noise level at or above the levels specified on Table D-2 of the OSHA Standards Section 1926.52 will be trained in the following:

- Recognition of harmful noise levels
- Effects of noise on hearing
- Hearing protection devices
  - Selection
  - Fit
  - Use
  - Care

### **General Safety Practices**

- If there is ever a question as to the noise level of a particular task, contact the Safety Director immediately so that a sound sampling can be taken and if necessary, appropriate safety measures taken. Work on this task will cease until either it is determined to be safe or corrective action has been taken.
- Hearing protection should be worn at all times when using the following items:
  - Powder actuated tools
  - Demolition hammers or any size hammer
  - Concrete and masonry saws
- As a general rule, if you cannot hear a person talking from no more than three feet away during a normal conversation then you need hearing protection.
- Read the manufacturer's instructions for fit, use, and care procedures.
- Keep hearing protection clean and never share hearing protection. Unsanitary hearing protection can lead to illnesses and possible hearing damage.



## **HOUSEKEEPING**

### **Purpose**

OSHA addresses housekeeping within 29 CFR 1926.25 construction standards. Obviously, a clean and organized work place will reduce hazards for all employees and fellow contractors and help make the job of housekeeping easier for our company. It has also been proven that production is improved when good housekeeping procedures are utilized.

Clancy & Theys' reputation also may be enhanced by a clean and organized work site. Good housekeeping may be the most prominent indicator of management and employee concern for safety and health that a company displays on an everyday basis. An organized workplace leads to a safe working environment by reducing exposures that may threaten safety such as tripping hazards, spills, potential fire, etc.

### **Good housekeeping procedures can yield the following benefits:**

- Lower operating costs due to less time and efforts required to maintain clean work areas.
- Reduced fire hazards due to control of combustible materials and unblocked access to fire protection equipment.
- Improved traffic flow for people and equipment, especially for tight spaces or storage areas with materials-handling equipment present.
- More efficient space utilization at the work place due to better organization.
- Improved control over resources and data due to better maintenance and organization of those resources.
- Conservation of resources, since resources can be better maintained and most efficiently utilized.
- Fewer mishaps or accidents that cause an increase in insurance premiums and workers compensation claims due to reduced slip, trip, fall and chemical exposure hazards.
- Increased production time due to more efficient utilization of space, more efficient materials-movement.
- Higher employee morale due to improved work environment.

### **Storage Areas**

- Securely store materials by piling or arranging in an orderly manner. This will allow for easy access and prevent material storage piles from collapsing.
- Physically or mechanically load and move materials in a safe manner in a pan, car, cart, truck, forklift or other approved conveyance(s)]. Clancy & Theys will provide training for employees on the safety and operation of mechanical material handlers.
- Clancy & Theys will provide Hazard Communication training for employees, who in the course of housekeeping duties, will be exposed to hazardous chemicals such as bleach, ammonia, or any other types of cleaning products that may pose a chemical hazard. If you work with a chemical you suspect of posing a hazard and you have not been trained in its safe use, contact your supervisor immediately.

### **Work Areas**

- Keep all ladders, scaffolds and man lifts safely clear of aisles and passageways to allow for other workers to pass by and easily exit in case of an emergency. If it is necessary to work in an aisle or passageway, proper warning devices or barricades shall be used to protect the worker and passers by.
- All spills, regardless of the substance, shall be immediately cleaned up using appropriate measures stated on required MSD sheets.

### **Housekeeping (cont.)**

- Do not allow materials in use or scrap materials to clutter your work area or the surrounding area. This could lead to injury of a fellow worker or contractor.
- Dispose of trash in designated containers or areas.

### **Tools and Movable Equipment**

All tools and movable equipment shall be stored properly in a secure assigned location when not being used.

### **Access / Egress and Emergency**

Clear access shall be maintained to all work areas, exits, fire extinguishers, electrical disconnects, and emergency aids.

### **Loading and Unloading Areas**

- Loading and unloading areas shall be free of unnecessary materials accumulation.
- If hazardous materials are being loaded or unloaded, have emergency spill kits and other spill cleanup equipment and materials available in the loading/unloading area and clean up spills as soon as they occur.
- Wheels of delivery trucks shall be chocked at all times when the driver is not present in the cab.

### **Working Surfaces (Floors, Ground, Scaffold Platforms, etc.)**

- Make sure working surfaces are clean, dry, and free of waste, unnecessary material, oil and grease.
- Have an adequate number of waste receptacles provided at accessible locations throughout all work areas to collect debris and trash.
- Provide designated walkways through grounds, kept clear of snow, ice, materials, or any other physical hazards.



## **INCENTIVE PROGRAMS**

### **NON SUPERVISORY EMPLOYEES**

The Clancy & Theys safety incentive program began April of 2004. This program will be for the Raleigh Branch for the 2005 year. The purpose is to study its effectiveness before introducing it to the other branches. Other branches of Clancy & Theys are encouraged to reward good safety behavior in means that they feel appropriate.

Nominations for these awards shall be based on the employee's performance and overall outstanding attitude toward safety.

#### **Rules and Eligibility**

- Must be a non-supervisory employee of Clancy & Theys in the Raleigh Branch.
- Includes Field, Shop and Maintenance, Warehouse, Office and Grading.
- Must be nominated by your direct supervisor in writing.
- Nominations must be turned in by the 2<sup>nd</sup> Monday of each month to the Safety Director.
- Each Supervisor must turn in a nomination or a blank nomination form.
- Nominations will be reviewed by the Safety Committee to select a winner

#### **Awards and Recognition**

- Winner's picture and article to be published monthly in the safety newsletter which is distributed to all Raleigh employees.
- Winners will receive a token of recognition and \$50 prize money.
- Winners will also be entered into an annual drawing for a Grand Prize of \$500 which will be held at our annual Employee Safety Day.

## **Incentive Programs (cont.)**

### 2005 / 2006 - SUPERINTENDENTS SAFETY AWARDS PROGRAM

It is the policy of Clancy & Theys Construction Company to strive for a hazard free environment on our projects and to protect all employees from and accidental injury.

In an effort to acknowledge our Superintendents for their efforts and attitude towards safety, the following "Safety Awards Program" is being implemented. This safety program will award superintendents with company recognition and a monetary prize. The company President will review each year the accident records and workmen's compensation claims to determine if safety awards will be granted for the given year.

**Eligibility:**      *Employed in a supervisory position for greater than 1 year prior to November 30<sup>th</sup> of the given year.*

**Time Period:**   12 Months  
                         *Beginning – December 1<sup>st</sup>*  
                         *Ending – November 30<sup>th</sup>*

#### **Categories:**

- Safety awards will be given the following categories which are based on total supervised man hours. If more than one superintendent is on a project then the lead superintendent will receive credit for the man hours worked.

<b>Category I</b>	<i>25,000 or greater man hours</i>
<b>Category II</b>	<i>20,000 to 24,999 man hours</i>
<b>Category III</b>	<i>10,000 to 19,999 man hours</i>
<b>Category IV</b>	<i>5,000 to 9,999 man hours</i>
<b>Category V</b>	<i>4,999 man hours or less</i>
<b>Category VI</b>	<i>Secondary Superintendents working on Conventional Construction Projects</i> <i>*Secondary Superintendents will receive awards based on man hours or for a single project. Only one monetary award will be given and it will be based on which ever of the two criteria is greater.</i>
<b>Category VII</b>	<i>Superintendents working on Construction Management Projects</i>
<b>Category VIII</b>	<i>Secondary Superintendents working on Construction Management Projects</i>
<b>Category IX</b>	<i>Grading Foreman, Shop Foreman, Warehouse Foreman</i>

- Monetary awards will be given in each category for Supervisors that meet the requirements.

<b>Category I</b>	<i>\$2,500</i>
<b>Category II</b>	<i>\$2,000</i>
<b>Category III</b>	<i>\$1,500</i>
<b>Category IV</b>	<i>\$1,000</i>
<b>Category V</b>	<i>\$500</i>
<b>Category VI</b>	<i>½ of the category bonus received by the lead Supervisor</i>
<b>Category VII</b>	<i>\$2,500</i>
<b>Category VIII</b>	<i>\$1,225</i>
<b>Category IX</b>	<i>\$500</i>

## **Incentive Programs (cont.)**

**Criteria:** Eligible employees meeting all of the following criteria:

- If a project has more than one Superintendent then the Superintendent as well as Secondary Superintendents will be classified as ineligible if the project has a Recordable Accident or OSHA Violation.
- 1. **No Recordable Accidents**
  - This is in accordance with OSHA's recordkeeping guidelines.
- 2. **No OSHA Violations**
  - This does not include OSHA Consultative Services Inspections.
  - Also, no consideration will be given for violations that are overturned or reduced during the legal process.
- 3. **100% of Weekly Toolbox Talks completed and submitted to the Home office**
  - Submittal must be in accordance with the guidelines set forth in the policy effective 12/6/04.

**Presentation of Award(s):** Winning employees will be presented with the awards prior to the 3<sup>rd</sup> week in December of each year or at a formal function which ever is decided upon by each Clancy & Theys Branch.

### **OSHA Inspection Bonus**

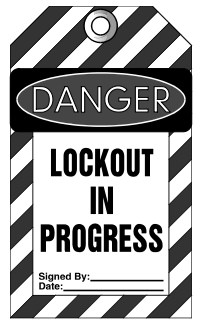
\*If one or more of our projects, the shop or warehouse are the subject of an OSHA inspection which results in **No Citation**, the supervisor will receive a framed awards certificate, along with a check for \$1,000, and a luncheon for the workers at the site or facility.

Award will only be given upon receipt of formal documentation from OSHA. Documentation shall be sent to the Corporate Safety Director

*\* This does not include OSHA Consultative Services Inspections or any other 3<sup>rd</sup> party inspections.*



## LOCKOUT / TAGOUT PROGRAM



### **Policy**

All employees of Clancy & Theys will be protected from injuries caused by unexpected energizing or start up of machines or equipment, or release of stored energy during service, repair, maintenance, operation, and associated activities.

### **This policy does not apply to the following:**

- Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energizing or start up of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing maintenance or repair.
- Construction, agriculture and maritime employment except where noted.
- Installations under the exclusive control of electric utilities for the purpose of power generation, transmission and distribution, including related equipment for communication or metering.

### **Purpose**

This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

### **Compliance With This Program**

All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout. The authorized employees are required to perform the lockout in accordance with this procedure. All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment.

Repairing and/or maintaining equipment during normal production operations are covered by this policy only if:

- An employee is required to remove or bypass a guard or other safety device; or
- An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

## **Lockout/Tagout (cont.)**

### **Definitions**

**Affected Employee:** An employee whose job requires him/her to operate or use a machine or equipment on which maintenance or repair is being performed under this lockout/tagout policy, or whose job requires him/her to work in an area in which such maintenance or repair is being performed.

**Authorized Individual:** A knowledgeable individual to whom the supervisor has given the authority and responsibility to lock or implement a lockout/tagout procedure on machines or equipment to perform maintenance or repair. An authorized individual and an affected employee may be the same person when the affected employee's duties also include performing maintenance or repair of a machine or equipment which must be locked and tagged out.

**Knowledgeable Individual:** An individual who is qualified to operate the controls or equipment and is familiar with the effects of operation.

**"Capable of being locked out".** An energy isolating device will be considered to be capable of being locked out if it has any of the following:

- it is designed with a hasp or other attachment or integral part to which, or through which, a lock can be affixed,
- it has a locking mechanism built into it, or
- if a lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

**Energy Isolating Device:** A mechanical device that physically prevents the transmission or release of energy, including, but not limited to, the following: a manually operated electrical circuit breaker, a disconnect switch, a manually operated switch, a slide gate, a slip blind, spectacle flange, a line valve, blocks, and similar devices with a visible indication of the position of the device. (Push buttons, selector switches, and other control-circuit type devices are not energy isolating devices.)

**Energy Source:** Any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy source that could cause injury to personnel.

**Lockout Device:** A device that utilizes a lock and key to hold an energy isolating device in the safe position and prevents a machine or equipment from being energized.

**Lockout/Tagout:** The placement of a lock and tag on the energy isolating device in accordance with an established procedure, indicating that the energy isolating device shall not be operated until removal of the lock/tag in accordance with an established procedure. (The term "lockout/tagout requires the combination of a lockout device and a tagout device).

**Maintenance and Repair:** Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining machines or equipment. These activities include but are not limited to lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected start-up of the equipment or release of hazardous energy.

**Shall:** The word "shall" always implies a mandatory requirement.

**Tagout Device:** A prominent warning device, such as a tag, that can be securely attached to equipment or machinery for the purpose of warning personnel not to operate an energy isolating device and identifying the applier or authority who has control of the procedure.

## **Lockout/Tagout (cont.)**

### **Lockout Procedure**

#### **Sequence of Lockout**

1. Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
2. The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.
3. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.).
4. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).
5. Lock out the energy isolating device(s) with assigned individual lock(s).
6. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. Caution: Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.
8. The machine or equipment is now locked out.

#### **"Restoring Equipment to Service."**

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

1. Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in neutral.
4. Remove the lockout devices and reenergize the machine or equipment. Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.
5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for used.

## **Lockout/Tagout (cont.)**

### **Lockout/Tagout Procedures as required by the OSHA 1926 Construction Standards**

#### *Lockout and tagging of circuits*

##### Controls.

Controls that are to be deactivated during the course of work on energized or deenergized equipment or circuits shall be tagged.

##### Equipment and circuits

Equipment or circuits that are de-energized shall be rendered inoperative and shall have tags attached at all points where such equipment or circuits can be energized.

##### Tags

Tags shall be placed to identify plainly the equipment or circuits being worked on.

#### *Lockout and Tagging for Concrete & Masonry Construction*

Powered and rotating type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the hands of the operator are removed from the equipment handles.

No employee shall be permitted to perform maintenance or repair activity on equipment (such as compressors mixers, screens or pumps used for concrete and masonry construction activities) where the inadvertent operation of the equipment could occur and cause injury, unless all potentially hazardous energy sources have been locked out and tagged.

Tags shall read “Do Not Start” or similar language to indicate that the equipment is not to be operated.

## **Training**

Clancy & Theys shall provide training to ensure that the purpose and function of the Lockout/Tagout program are understood by our employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by the employees. The training shall include the following:

- 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.
- Each affected employee shall be instructed in the purpose and use of the energy control procedure.
- 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 reenergize machines or equipment which are locked out or tagged out.
- When tagout systems are used, employees shall also be trained in the following limitations of tags:
  - 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.
  - 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.
  - 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.

### **Lockout/Tagout (cont.)**

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

### **Employee Retraining**

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 procedures.

Additional retraining shall also be conducted whenever a periodic inspection 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.

The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

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.

# MATERIAL HANDLING SAFETY PROGRAM



## Introduction

Back injuries are responsible for 100 million lost workdays annually! These types of injuries occur nearly twice as often as any other injury. More than one out of five work-related injuries are back injuries. They represent the largest single contributor in injury cases and insurance claims in the workplace. The risk of injury is different for every employee. Contrary to popular belief, the workplace environment has a strong influence on back safety. Several factors, including type of work, noise, temperature, and design of the workplace, can have an effect on the safety of the workplace. The most effective tools for preventing back injuries are training and education on the workings of the back, injury cases, and proper material handling techniques.

This manual is to insure that each employee at Clancy & Theys is properly trained and that each employee adheres to safe material handling practices while on and off the job.

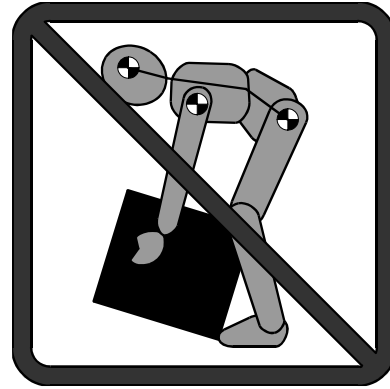
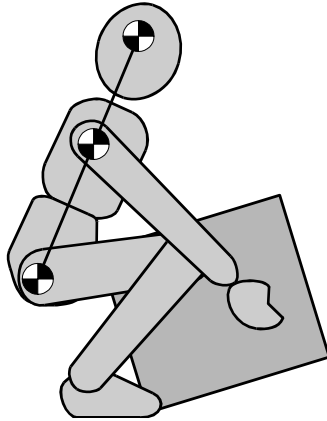
## The Most Common Causes of Back Pain

- Posture and Poor Alignment – Any posture that compromises the natural curvature and muscular balance of the spine predisposes us to lower back pain. Poor posture places strain and tension on the supporting muscles and ligaments, weakening them. Remember to keep your ears, shoulders, and hips stacked in a straight line.
- Overexertion – We tend to ignore the subtle signs our back gives us to let up on our activity or change our position. In spite of a twinge or a little spasm, we continue to move furniture around or sit at a computer for another three hours until we strain a muscle or squeeze a disc.
- Traumatic Back Injuries - Automobile, industrial accidents, and active sports cause most traumatic injuries.
- Degenerative Wear and Tear – Although the spine undergoes a natural aging process, inappropriate alignment and use of the spine can speed up that process.
- A Bulging or Herniated Disc – This can cause severe back pain, but only a small percentage of back pain can be attributed to this condition.
- Structural Abnormalities – Occasionally, low back pain is caused by a predisposing condition such as scoliosis (curvature of the spine.)
- Emotional Stress and Muscular Tension – Stress causes muscles to contract. Chronically contracted muscles stop the circulation of blood and oxygen, resulting in pain and atrophy.

## Material Handling (cont.)

### Proper Material Handling Techniques

- Test every load before you lift it, push it, or pull it. A light load can do as much damage as a heavy one if not handled correctly. Also, a small size does not always mean a light load.
- **Remember to keep your ears, shoulders, and hips stacked in a straight line. This puts your back in the strongest position. Lift with your legs and hold the load close to your body. A load held at arm length can be up to ten times heavier than one held close to your body. Always tighten your stomach muscles as you lift or lower an object.**



- If you must turn while carrying the load, use your feet. You can injure your back if you twist while carrying a load.
- Look over the route you plan to travel. Make sure there is nothing that you can trip over or slip on. Try to avoid uneven surfaces.
- You can injure your back if you arch your back when lifting a load over your head. To avoid an injury, use a ladder when you must lift something that is over your head.
- Be sure you have a tight grip on an object before you lift it.
- Use slow and smooth movements when lifting heavy objects.
- If an object is very heavy or unbalanced, use a partner to help you lift it. If you can, use a dolly or mechanical lifting device.
- If at all possible, push instead of pulling an object. You have twice as much power and less chance of injury.
- Split large loads into several smaller ones whenever practical.

## **Material Handling (cont.)**



### **MOVING MATERIALS WITH MECHANICAL HELP**

Obviously there are materials on the job that cannot be moved by hand. Whenever possible, material-handling tools should be used. They enable you to move heavy objects rapidly and with less effort. Levers, inclined planes, jackscrews, and block and tackle are some of the simpler devices.

But there are other devices that you use on the job every day--devices that are sometimes taken for granted.

### **HAND TRUCKS**

- Many types of hand trucks are used throughout industry, including wheelbarrows, dolly trucks and two-wheeled hand trucks.
- Two-wheeled hand trucks are used for lifting and transporting heavy and bulky objects for short distances.
- When using these trucks, make sure the load is placed carefully. Your view should be unobstructed.
- *Two-wheeled trucks* and wheelbarrows may be equipped with knuckle guards to help prevent hand injuries. These guards can be made of canvas, leather or rubber belts.
- *Cylinder trucks* are used for moving compressed air cylinders; the cylinders should be handled carefully and secured to the truck with bands, chains or straps.
- A *three-wheeled handlift truck* should always be centered under the skid it carries so that good balance is maintained. This truck should be pulled; pushing is limited to maneuvering. Leave the handle in the up position to control tripping hazards.
- *Hand pallet trucks* are designed for moving pallets; they should also be pulled. The handle should be down only to jack the skid.

### **POWERED INDUSTRIAL TRUCKS (FORKLIFT)**

Powered industrial trucks move material quickly and easily and save work and time. If you're selected as a lift truck operator you should know how to operate the trucks carefully and safely and react correctly to every situation. (No employee is permitted to operate a powered industrial truck (Forklift) without proper training and certification according to the Clancy & Theys – Powered Industrial Truck Safety manual.)

- Pay attention to maximum load limits--never overload.
- Back the truck down a ramp, but keep the load in front when you're going uphill.
- Check to see that your path is clear before backing.
- Remember, pedestrians have the right of way.
- Make sure your truck is inspected thoroughly before starting it and report any malfunctions to your supervisor. Check your brakes, steering, controls, forks, hoist, warning devices and lights before and after each shift.
- Tilt the forklift masts back when you're driving the lift and keep your head, arms and legs inside.
- Keep the forks about 4 to 6 inches above the ground.



## **Material Handling (cont.)**

- Do not use your forklift as an elevator for co-workers.
- Drive on the right side under normal conditions; avoid quick starts, quick turns and jerky stops. Come to a complete stop before reversing direction and watch the distance between other vehicles.
- Sound your horn when approaching a blind corner or when workers may not see you.
- Reduce your speed when the driving surface is slick or rough.
- Check clearances when loading or unloading a truck bed.
- Know the weight capacity and condition of the bed.
- Besides having regard for company rules, you, as a forklift operator, should operate your machine properly, efficiently and alertly.

## **CRANES AND DERRICKS**

- Only thoroughly trained persons are permitted to operate cranes.
- The rated load must be plainly marked on each side of the crane and the crane must never be overloaded.
- Never work or stand underneath a crane that is moving material.
- If you're the operator, do not swing loads over workers.
- Keep hoisting chains and ropes free from kinks. Do not wrap chains or ropes around loads--use a load block hook with a sling. Operators should make sure the sling clears all obstacles.
- Both the operator and the signaler should understand standard hand signals for boom cranes.
- Crane operators should never remove their hands and feet from the controls while a load is suspended.
- All cranes should be inspected thoroughly by persons familiar with all engineering aspects of the cranes.

## **STORING MATERIALS**

Stored materials must not create a hazard for employees. Employers should make workers aware of such factors as the materials' height and weight, how accessible the stored materials are to the user, and condition of the containers where materials are being stored when stacking and piling materials.

To prevent creating hazards when storing materials, Clancy & Theys employees shall do the following:

- Keep storage areas free from accumulated materials that cause tripping, fires, explosions, or that may contribute to the harboring of rats and other pests
- Place stored materials inside buildings that are under construction and at least 6 feet from hoist ways, or inside floor openings and at least 10 feet away from exterior walls
- Separate non-compatible material
- In addition, workers should consider placing bound material on racks, and secure it by stacking, blocking, or interlocking to prevent it from sliding, falling, or collapsing

## **STACKING MATERIALS**

Stacking materials can be dangerous if workers do not follow safety guidelines. Falling materials and collapsing loads can crush or pin workers, causing injuries or death. To help prevent injuries when stacking materials, employees of Clancy & Theys must do the following:

- Stack lumber no more than 16 feet high if handled manually, and no more than 20 feet if using a forklift;

## **Material Handling (cont.)**

- Remove all nails from used lumber before stacking;
- Stack and level lumber on solidly supported bracing;
- Ensure that stacks are stable and self-supporting;
- Do not store pipes and bars in racks that face main aisles to avoid creating a hazard to passersby when removing supplies;
- Stack bags and bundles in interlocking rows to keep them secure; and stack bagged material by stepping back the layers and cross-keying the bags at least every ten layers. (To remove bags from the stack, start from the top row first).
- Store paper and rags inside a building no closer than 18 inches to the walls, partitions, or sprinkler heads;
- Band boxed materials or secure them with cross-ties or shrink plastic fiber;
- Stack drums, barrels, and kegs symmetrically;
- Block the bottom tiers of drums, barrels, and kegs to keep them from rolling if stored on their sides;
- Place planks, sheets of plywood dunnage, or pallets between each tier of drums, barrels, and kegs to make a firm, flat, stacking surface when stacking on end;
- Chock the bottom tier of drums, barrels, and kegs on each side to prevent shifting in either direction when stacking two or more tiers high. Stack and block poles as well as structural steel, bar stock, or other cylindrical materials to prevent spreading or tilting unless they are in racks.
- Paint walls or posts with stripes to indicate maximum stacking heights for quick reference;
- Observe height limitations when stacking materials; and
- Consider the need for availability of the material.

## **AISLES and PASSAGEWAYS**

When using aisles and passageways to move materials mechanically, workers must allow sufficient clearance for aisles at loading docks, through doorways, wherever turns must be made, and in other parts of the workplace.

Providing sufficient clearance for mechanically moved materials will prevent workers from being pinned between the equipment and fixtures in the workplace, such as walls, racks, posts, or other machines. Sufficient clearance also will prevent the load from striking an obstruction and falling on an employee. Employers must ensure that all passageways used by workers remain clear of obstructions and tripping hazards. Workers should not store materials in excess of supplies needed for immediate operations in aisles or passageways, and Clancy & Theys will insure the marking of permanent aisles and passageways.

## **TRAINING and EDUCATION**

Clancy & Theys shall establish and maintain a formal training program to teach workers how to recognize and avoid materials handling hazards. Instructors should be well versed in safety materials handling and storing. The training shall include but is not limited to the following topics:

- Dangers of lifting without proper training.
- Avoidance of unnecessary physical stress and strain.
- Awareness of what a worker can comfortably handle without undue strain.
- Use of equipment properly.
- Recognition of potential hazards and how to prevent or correct them.
- Proper use and safety practices of mechanical handling equipment.



## OSHA AND THE INSPECTION PROCESS

### **What OSHA does**

OSHA uses three basic strategies, authorized by the *Occupational Safety and Health Act*, to help employers and employees reduce injuries, illnesses, and deaths on the job:

- Strong, fair, and effective enforcement
- Outreach, education, and compliance assistance
- Partnerships and other cooperative programs

Based on these strategies, OSHA conducts a wide range of programs and activities to promote workplace safety and health. The agency:

- Encourages employers and employees to reduce workplace hazards and to implement new safety and health management systems or improve existing programs;
- Develops mandatory job safety and health standards and enforces them through worksite inspections, employer assistance, and, sometimes, by imposing citations, penalties, or both;
- Promotes safe and healthful work environments through cooperative programs, partnerships, and alliances;
- Establishes responsibilities and rights for employers and employees to achieve better safety and health conditions;
- Supports the development of innovative ways of dealing with workplace hazards;
- Maintains a reporting and recordkeeping system to monitor job-related injuries and illnesses;
- Establishes training programs to increase the competence of occupational safety and health personnel;
- Provides technical and compliance assistance and training and education to help employers reduce worker accidents and injuries;
- Works in partnership with states that operate their own occupational safety and health programs; and
- Supports the Consultation Service.

### **OSHA Coverage**

#### ***Who the act covers***

The *OSH Act* covers employers and employees in the 50 states and all territories and jurisdictions under federal authority either directly through federal OSHA or through an OSHA approved state program.

#### ***Who is not covered***

The *OSH Act* does not cover:

- The self-employed;
- Immediate members of farming families on farms that do not employ outside workers;
- Employees whose working conditions are regulated by other federal agencies under other federal statutes. These include mine workers, certain truckers and transportation workers, and atomic energy workers
- Public employees in state and local governments; some states have their own occupational safety and health plans that cover these workers.

## **OSHA and the Inspection Process (cont.)**

### ***Employer "Clancy & Theys" Responsibilities***

If you are an employer, you must:

- Meet your general duty responsibility to provide a workplace free from recognized hazards
- Keep workers informed about OSHA and safety and health matters with which they are involved
- Comply, in a responsible manner, with standards, rules, and regulations issued under the *OSH Act*
- Be familiar with mandatory OSHA standards
- Make copies of standards available to employees for review upon request
- Evaluate workplace conditions
- Minimize or eliminate potential hazards
- Provide employees safe, properly maintained tools and equipment, including appropriate personal protective equipment, and ensure that they use it

### ***Employer "Clancy & Theys' Rights***

If you are an employer, you have the right to:

- Seek free advice and on-site consultation;
- Be involved in job safety and health through your industry association
- Request and receive proper identification of OSHA compliance officers
- Be advised by the compliance officer of the reason for an inspection
- Have an opening and closing conference with the compliance officer
- Accompany the compliance officer on the inspection
- File a notice of contest to dispute inspection results
- Request an informal settlement agreement process after an inspection
- Apply for a variance from a standard's requirements when technical expertise and materials are unavailable and other means have been provided to protect employees
- Take an active role in developing safety and health programs
- Be assured of the confidentiality of any trade secrets
- Submit a written request to the National Institute for Occupational Safety and Health (NIOSH) for information on whether any substance in your workplace has potentially toxic effects in the concentrations being used
- Submit information or comments to OSHA on the issuance, modification, or revocation of OSHA standards and request a public hearing

### ***Employee Responsibilities***

Employees are expected to comply with all applicable standards, rules, regulations, and orders issued under the *OSH Act*.

If you are an employee, you should:

- Read the OSHA "It's The Law" poster (OSHA 3165) at the jobsite
- Comply with all applicable OSHA standards
- Follow all employer safety and health rules and regulations, and wear or use prescribed protective equipment while engaged in work
- Report hazardous conditions to the supervisor
- Report any job-related injury or illness to the employer, and seek treatment promptly
- Cooperate with the OSHA compliance officer conducting an inspection
- Exercise your rights under the *OSH Act* in a responsible manner

## **OSHA and the Inspection Process (cont.)**

### ***Employee Rights***

If you are an employee, you have the right to:

- Review copies of appropriate OSHA standards, rules, regulations, and requirements that the employer should have available at the workplace
- Request information from your employer on safety and health hazards, precautions, and emergency procedures
- Receive adequate training and information
- Request that OSHA investigate if you believe hazardous conditions or violations of standards exist in your workplace
- Have your name withheld from your employer if you file a complaint
- Be advised of OSHA actions regarding your complaint and have an informal review of any decision not to inspect or to issue a citation
- Have your authorized employee representative accompany the OSHA compliance officer during an inspection
- **Respond to or not respond to questions from an OSHA compliance officer**
- **Have your supervisor present during an interview with an OSHA compliance officer**
- Observe any monitoring or measuring of hazardous materials and see any related monitoring or medical records
- Review the Log and Summary of Work-Related Injuries and Illnesses (OSHA 300 and 300A) at a reasonable time and in a reasonable manner
- Request a closing discussion following an inspection
- Submit a written request to the National Institute for Occupational Safety and Health for information on whether any substance in your workplace has potentially toxic effects in the concentrations being used and have your name withheld from your employer
- Object to the abatement period set in a citation issued to your employer
- Participate in hearings conducted by the Occupational Safety and Health Review Commission
- Be notified by your employer if he or she applies for a variance, and testify at a variance hearing and appeal the final decision; and • Submit information or comments to OSHA on the issuance, modification, or revocation of OSHA standards and request a public hearing

### **Compliance Officer Authority**

The *OSH Act* authorizes OSHA compliance officers—at reasonable times, in a reasonable manner, and within reasonable time limits to:

- Enter any factory, plant, establishment, construction site, or other areas of the workplace or environment where work is being performed
- Inspect and investigate during regular working hours any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials
- Inspect and investigate at other times any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials
- Question privately any employer, owner, operator, agent or employee during an inspection or investigation

### **Advance Notice of Inspections**

OSHA generally conducts inspections without advance notice. In fact, anyone who alerts an employer in advance of an OSHA inspection can receive a criminal fine of up to \$1,000 or a six-month jail term or both.

## **OSHA and the Inspection Process (cont.)**

However, under special circumstances, OSHA may give the employer advance notice of an inspection but no more than 24 hours. These special circumstances include:

- Imminent danger situations, which require correction immediately
- Inspections that must take place after regular business hours or require special preparation
- Cases where OSHA must provide advance notice to assure that the employer and employee representative or other personnel will be present
- Situations in which OSHA determines that advance notice would produce a more thorough or effective inspection

Employers receiving advance notice of an inspection must inform their employees' representative or arrange for OSHA to do so.

### **Search warrants**

An employer has the right to require the compliance officer to obtain an inspection warrant before entering the worksite. OSHA may inspect after acquiring a judicially authorized search warrant based on administrative probable cause or evidence of a violation. OSHA may take appropriate steps, including legal action, if an employer still refuses to admit a compliance officer, or if an employer attempts to interfere with an inspection.

It is not policy of Clancy & Theys to require a search warrant for OSHA inspections.

### **Inspection priorities**

- **Imminent danger**, or any condition where there is reasonable certainty that a danger exists that can be expected to cause death or serious physical harm immediately or before the danger can be eliminated through normal enforcement procedures. OSHA gives top priority to imminent danger situations.
- **Catastrophes and fatal accidents** resulting in the death of any employee or the hospitalization of three or more employees.
- **Employee complaints** involving imminent danger or an employer violation that threatens death or serious physical harm.
- **Referrals** from other individuals, agencies, organizations, or the media.
- **Planned, or programmed, inspections** in industries with a high number of hazards and associated injuries.
- **Follow-ups** to previous inspections.

## **The Inspection Process**

### ***On-site Inspections***

What to expect A typical OSHA inspection includes four stages:

- Presentation of inspector credentials
- Opening conference
- Inspection walkaround
- Closing conference

## **OSHA and the Inspection Process (cont.)**

### ***How an inspection begins***

When arriving at a worksite, the OSHA compliance officer displays official credentials and asks to meet an appropriate employer representative. Employers should always insist on seeing the compliance officer's credentials.

An OSHA compliance officer carries N.C. Department of Labor credentials bearing his or her photograph and a serial number that an employer can verify by phoning the nearest OSHA office. Posing as a compliance officer is a violation of law; suspected imposters should be promptly reported to local law enforcement agencies.

### ***Opening conference***

In the opening conference, the compliance officer:

- Explains why OSHA selected the establishment for inspection
- Obtains information about the establishment
- Explains the purpose of the visit, the scope of the inspection, walkaround procedures, employee representation, employee interviews, and the closing conference
- Determines whether an OSHA funded consultation is in progress or whether the facility has received an inspection exemption. If so, the compliance officer usually terminates the inspection

The compliance officer asks the employer to select an employer representative to accompany him or her during the inspection. OSHA welcomes, but does not require, an employee representative to accompany the inspector. Under no circumstances may the employer select the employee representative for the walkaround. OSHA does, however, encourage employers and employees to meet together.

### ***Inspection walkaround***

After the opening conference, the compliance officer and accompanying representatives proceed through the establishment, inspecting work areas for potentially hazardous working conditions. The compliance officer will discuss possible corrective actions with the employer. OSHA may consult, at times privately, with employees during the inspection walkaround.

An inspection walkaround may cover only part of an establishment, particularly if the inspection resulted from a specific complaint, fatality, or catastrophe or is part of a local or national emphasis program. Other inspections may cover the entire facility, "wall to wall." Trade secrets observed by the compliance officers are kept confidential. Federal employees who release confidential information without authorization are subject to a \$1,000 fine, one year in jail, or both, and removal from office or employment.

### ***Records reviews***

The compliance officer checks posting and recordkeeping practices, including whether the employer has:

- • Maintained records of deaths, injuries, and illnesses
- • Posted OSHA's Summary of Work-Related Injuries and Illnesses (OSHA 300A) from February 1 to April 30
- • Prominently displayed the OSHA "It's The Law" poster (OSHA 3165)

The compliance officer also examines records, where required, of employee exposure to toxic substances and harmful physical agents.

## **OSHA and the Inspection Process (cont.)**

### ***On-the-spot corrections***

Some apparent violations detected by the compliance officer can be corrected immediately. The compliance officer records such corrections to help evaluate the employer's good faith for compliance. Apparent violations that have been corrected may still serve as the basis for a citation or notice of proposed penalty or both.

### ***After the walkaround***

After the inspection walkaround, the compliance officer holds a closing conference with the employer and the employee representatives, either jointly or separately. During the closing conference, the compliance officer:

- Discusses with the employer all unsafe or unhealthful conditions observed on the inspection and indicates all apparent violations for which a citation may be recommended
- Tells the employer of his or her appeal rights, anti-discrimination rights under 11(c) of the *OSH Act*, and procedures for contesting citations within 15 working days after receiving the citation
- Informs the employer of his or her obligations regarding any citations that may be issued

The compliance officer will hold a separate closing conference with the employees or their representative, if requested, to discuss matters of direct interest to employees and to inform them of their rights after an inspection.

### **Information in an OSHA citation**

Citations inform the employer and employees of:

- Regulations and standards the employer allegedly violated
- Any hazardous working conditions covered by the *OSH Act*'s general duty clause
- The proposed length of time set for abatement of hazards
- Any proposed penalties

### **Additional information provided**

The compliance officer:

- Informs employers of their rights under the *Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA)*. *SBREFA* requires that all federal agencies have in place a policy to reduce or, under appropriate circumstances, waive penalties for violations of standards by small businesses.
- Informs employers that Regional Small Business Regulatory Fairness Boards created under *SBREFA* exist to hear cases if employers are not satisfied with agency resolutions of enforcement matters
- Explains that OSHA area offices offer assistance and can answer questions about programs and activities

### **Disclosures of penalties**

Only the OSHA area director has the authority to tell the employer what penalties the agency will propose. OSHA has up to six months following an inspection to issue a final report. After reviewing the full inspection report, the OSHA area director will:

- Issue citations without penalties





## **PERSONAL PROTECTION**

### **General**

All levels of supervision should be responsible for ensuring that workers wear or use the proper protective equipment and that the equipment is kept in good repair.

Clancy & Theys' workers performing manual labor or operating equipment shall wear clothes that do not hang loosely. Workers are also encouraged not to wear long head or neck coverings, rings, watches, earrings, or have long hair that is unprotected.

### **Hard Hats**

All Clancy & Theys construction workers will wear hard hats as required by OSHA standards. Head protection will be appropriate for the exposure. Bump caps will not be used in construction operations.

Clancy & Theys' workers will not be allowed to wear hats that have had the shell altered by drilling or cutting. These alterations destroy the integrity of the shell, and the hat will not provide adequate protection.

Hard hats shall not be painted or have an excess of stickers that would hinder inspection of the equipment for wear or damage.

Hard hats that have been hit by falling objects should be replaced.

Hard hats will be periodically inspected for defects by the Superintendent/Foreman.

### **Gloves**

Where needed, Clancy & Theys' workers should wear work gloves that are in good condition and are suited for the type of work involved.

Workers that are required to operate or work around drill presses, power saws, and similar rotating machinery should not wear gloves.

Leather gloves, because of their resistance to abrasion, sparks, or molten metal, are recommended for general use and material handling jobs.

Neoprene or nitrile gloves should be worn for use with detergents or plastics. Neoprene, nitrile, or rubber gloves should be worn for protection against acids or chemicals.

Appropriate electrically insulated gloves should be used for work on or in proximity to power lines and other electrical hazards. These gloves should be inspected before each use and dialectically tested periodically and certified by a laboratory. Destroy defective gloves.

## **Personal Protection (cont.)**

### **Shoes & Foot Guards**

Proper work shoes will be used by all Clancy & Theys construction workers in accordance with the OSHA standards. All safety shoes when required, shall meet nationally recognized standards.

In addition to safety shoes, canvas or leather leggings and spats should be worn by welders, metal lancers, or anyone working around molten metal.

Encourage construction workers to keep their shoes in good repair. Shoes with worn heels or thin and worn soles should not be permitted. Workers should not be allowed to wear sneakers, sandals, or worn out shoes.

Approved foot guards will be worn by Clancy & Theys' employees while operating jackhammers, soil tamps, and similar equipment when the employee does not have "steel toe" shoes.

### **Eye and Face Protection**

Safety glasses shall be used in all circumstances where there is a potential for eye injury. Nationally recognized standards should be observed when purchasing eye protection.

Plastic face shields shall be used to guard against spraying liquids, corrosives, flying particles, and similar hazards that will potentially come in contact with the face.

Cover-all acid goggles should be worn when washing masonry walls, fluxing metals, handling corrosives, and performing similar work.

Cover-all chipping goggles should be worn when caulking, drilling, picking, sawing, chipping, and while performing other dust-producing operations.

Gas and electric welding operations require burning goggles or a welder's hood with lenses having the proper color density for the type of welding involved. Such lenses should be of the approved safety type.

### **Protective Equipment for Specific Use**

- *Personal Fall Arrest System (PFAS)*

A PFAS should be worn by Clancy & Theys' workers on elevated levels which are not protected by handrails, safety nets or when working from suspended scaffolds. PFAS shall be used in accordance with the Clancy & Theys "Fall Protection" program.

- *Respirators*

Use approved respiratory protective devices appropriate for the airborne contaminate (dust, fumes, smoke, vapors, mist, etc.) present. See the Clancy & Theys "Respirator Safety" program.

- *Protective Clothing*

Workers exposed to potential skin damaging hazards such as detergent, tar, grease, insulating materials, heat/fire, and similar materials, should cover their skin with suitable protective clothing.

### **Maintenance**

All personal protective clothing and equipment should be kept clean and in good repair at all times to ensure proper personal protection. Manufacturer's guidelines for cleaning and maintenance shall be followed.

## **Personal Protection (cont.)**

### **Training**

The supervisor will provide training for each employee who is required to use personal protective equipment. Training will be in accordance with the OSHA standards and the manufacturer's recommendations. Training for employees will include:

- When PPE is necessary
- What PPE is necessary
- How to wear assigned PPE
- Limitations of PPE
- The proper care, maintenance, useful life, and disposal of assigned PPE

Employees must demonstrate, to their supervisors, an understanding of the training and the ability to use the PPE properly before they are allowed to perform work requiring the use of the equipment.

Employees shall not perform work without first outfitting themselves with the appropriate PPE to protect themselves from the hazards they will encounter in the course of their duties.

If their supervisor has reason to believe an employee does not have the understanding or skill required, the supervisor must retrain them. Circumstances where retraining may be required include: changes in the workplace, changes in the equipment being used, or changes in the types of PPE to be used which would render previous training obsolete. Also, inadequacies in an affected employee's knowledge or use of the assigned PPE, which indicates that the employee has not retained the necessary understanding or skills, may require retraining.

The Supervisor will certify in writing that the employee has received and understands the PPE training. Each written certification shall contain the name of each employee trained, the date(s) of training, and identify in detail what equipment the employee was certified for. All training documentation will be sent to the Home Office for recordkeeping data entry.

March 31, 2014

**EH&S POLICY NOTICE (*100% Eye Protection*)**

Effective immediately C&T is implementing a 100% eye protection policy on our construction projects. This policy applies to any C&T employee entering a construction project regardless of the reason or length of stay.

Subcontractors will also comply with this policy on all future projects commencing after the date of this notice.

The type of eye protection utilized must be chosen based on a hazard assessment of the assigned employee task. Contact the C&T EH&S Department for eye protection equipment.

Non-Prescription Eye Protection

C&T EH&S Department will furnish non-prescription eye protection to our employees at no cost. C&T will also furnish non-prescription eye protection with +1.5 and +2.0 magnification readers as well as over-the-glasses eye protection at no cost to the employee.

Eye protection will be purchased by the C&T EH&S department and distributed to the projects as required. Individual C&T projects should not purchase eye protection unless approved by the C&T EH&S Department. All C&T eye protection equipment is intended solely for C&T employees only. Subcontractors are responsible for providing personal protective equipment to their respective employees in accordance with the OSHA standards.

Prescription Eye Protection

- *Hourly Field Employees*
  - C&T hourly field employees purchasing safety prescription eye-protection meeting the ANSI Z87.1 standards for the lens and frame are eligible to be reimbursed up to \$250.00 once per year. A copy of the original receipt is required for reimbursement.
- *Salary Employees*
  - C&T salary employees purchasing safety prescription eye-protection meeting the ANSI Z87.1 standards for the lens and frame are eligible to be reimbursed up to \$100.00 once per year. A copy of the original receipt is required for reimbursement.

If you have any questions please feel free to contact me.

Sincerely,

Lyle Gurley  
EH&S Director

March 31, 2014

**EH&S POLICY NOTICE (*High Visibility Apparel*)**

Effective immediately C&T is implementing a 100% high visibility apparel policy on our construction projects. This policy applies to any C&T employee entering a construction project regardless of the reason or length of stay.

- Exception: *Construction projects that are solely fit-up or interior finish type projects where no motorized mobile equipment (earthmoving equipment, aerial lifts, scissor lifts, forklifts, etc.) is being utilized.*

Subcontractors will also comply with this policy on all future projects commencing after the date of this notice.

**Selection of High Visibility Apparel:**

- Tasks performed outside of the right-of-way of a road during any time of day.
  - Apparel must be a high visibility shirt, vest, or jacket. However, apparel does not need to be ANSI approved.
- Tasks performed within the right-of-way of a road.
  - Daytime
    - Minimum of ANSI Class II High-Visibility Apparel
  - Nighttime (0:30 minutes prior to sunset until 0:30 after sunrise)
    - ANSI Class III High-Visibility Apparel only

C&T will furnish high visibility apparel (Vests Only) to our employees at no cost.

High visibility apparel will be purchased by the C&T EH&S department and distributed to the projects as required. Individual C&T projects should not purchase high visibility apparel unless approved by the C&T EH&S Department. All C&T eye protection equipment is intended solely for C&T employees only. Subcontractors are responsible for providing personal protective equipment to their respective employees in accordance with the OSHA standards.

If you have any questions please feel free to contact me.

Sincerely,

Lyle Gurley  
EH&S Director



## RESPIRATORY PROTECTION

### **General**

In the Respiratory Protection program, hazard assessment and selection of proper respiratory PPE is conducted in the same manner as for other types of PPE. In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used.

### **Responsibilities**

All Employees will...

- Follow the requirements of the Respiratory Protection Program.

Management will...

- Implement the requirements of this program
- Provide a selection of respirators as required
- Enforce all provisions of this program

Safety Director will...

- Conduct the respiratory protection program

Supervisors will...

- Review sanitation/storage procedures
- Ensure respirators are properly stored, inspected and maintained
- Monitor compliance for this program
- Provide training for affected employees
- Review compliance and ensure monthly inspection of all respirators
- Provide respirator fit testing

Designated Occupational Health Care Provider - Hartford Casualty Insurance Company

- Will conduct medical aspects of program

### **Voluntary Use of Respirators**

OSHA requires that voluntary use of respirators, when not required by the company, must be controlled as strictly as under required circumstances. So, any employee wearing a respirator voluntarily shall fall under this respiratory protection program, be issued a copy of Appendix D or 1910.134, and fill out a medical questionnaire (Appendix C) and have it evaluated by an appropriate individual – "Hartford Casualty Insurance Company" authorized facility.

Training will be conducted on the proper storage, cleaning, and maintenance of the respirator. All steps will be taken to ensure that the respirator does not pose a health risk to the person wearing it. *Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) face pieces (dust masks) do not fall under this program.*

## **Respiratory Protection (cont.)**

### **Program Evaluation**

Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented. This includes consulting with employees to ensure that they are using the respirators properly. Evaluations shall be conducted as necessary to ensure implementation and effectiveness.

Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)
- Appropriate respirator selection for the hazards to which the employee is exposed
- Proper respirator use under the workplace conditions the employee encounters
- Proper respirator maintenance

### **Record Keeping**

Clancy & Theys will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the Company in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

### **Training and Information**

Effective training for employees who are required to use respirators is essential. The training must be comprehensive, understandable, and recur annually, or as often as necessary.

**Training** will be provided prior to requiring the employee to use a respirator in the workplace. The training shall ensure that each employee can demonstrate knowledge of at least the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
- Limitations and capabilities of the respirator
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
- How to inspect, put on and remove, use, and check the seals of the respirator
- What the procedures are for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
- The general requirements of this program

**Retraining** shall be conducted annually and when:

- Changes in the workplace or the type of respirator required render previous training obsolete
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill
- Other situations arise in which retraining appears necessary to ensure safe respirator use

## **Respiratory Protection (cont.)**

Training will be conducted by instructors who have adequate knowledge of OSHA training requirements and is divided into the following sections:

### **Classroom Instruction**

- Overview of the Company Respiratory Protection Program & OSHA Standard
- Respiratory Protection Safety Procedures
- Respirator selection
- Respirator operation and use
- Why the respirator is necessary
- How improper fit, usage, or maintenance can compromise the protective effect
- Limitations and capabilities of the respirator
- How to use the respirator effectively in emergency situations, including respirator malfunctions
- How to inspect, put on and remove, use, and check the seals of the respirator
- Procedures for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
- Change out schedule and procedure for air purifying respirators

### **Fit Testing**

- For each type and model of respirator used

### **Hands-on respirator Training**

- Respirator inspection
- Respirator cleaning and sanitizing
- Recordkeeping
- Respirator storage
- Respirator fit check
- Emergencies

### **Basic Respiratory Protection Safety Procedures**

- Only authorized and trained Employees may use respirators. Any of these employees may use only the respirator they have been trained on and properly fitted to use.
- Only Physically Qualified Employees may be trained and authorized to use respirators. A pre-authorization and annual certification by a qualified physician will be required and maintained. Any changes in an Employee's health or physical characteristics will be reported to the Safety Director and will be evaluated by a qualified physician.
- Only the proper prescribed respirator or SCBA may be used for the job or work environment. Air cleansing respirators may be worn in work environments when oxygen levels are between 19.5 percent to 23.5 percent and when the appropriate air cleansing canister, as determined by the Manufacturer and approved by NIOSH or MESA, for the known hazardous substance is used. SCBAs will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).
- Employees working in environments where a sudden release of a hazardous substance is likely, will wear an appropriate respirator for that hazardous substance



## **Respiratory Protection (cont.)**

- Only SCBAs will be used in oxygen deficient environments, environments with an unknown hazardous substance, or unknown quantity of a known hazardous substance or any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).
- Employees with respirators loaned on "permanent check out" will be responsible for the sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by the Company when returned.
- The last employee using a respirator and/or SCBA which is available for general use will be responsible for proper storage and sanitation. All respirators will be inspected monthly and after each use with documentation to assure its availability for use.
- All respirators will be located in a clean, convenient and sanitary location.
- In the event that Employees must enter a confined space, work in environments with hazardous substances that would be dangerous to life or health should an RPE fail (an SCBA is required in this environment), and/or conduct a HAZMAT entry, a "buddy system" detail will be used with a Safety Watchman with constant voice, visual or signal line communication. Employees will follow the established Emergency Response Program and/or Confined Space Entry Program when applicable.

### **Selection of Respirators**

Clancy & Theys will evaluate the respiratory hazard(s) in each workplace or job site, identify relevant workplace and user factors, and will base respirator selection on these factors. Also estimates of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form will be considered. This selection will include appropriate protective respirators for use in IDLH atmospheres, and will limit the selection and use of air-purifying respirators. All selected respirators will be NIOSH-certified.

Filter Classifications - These classifications are marked on the filter or filter package

- ***N-Series: Not Oil Resistant***  
Approved for non-oil particulate contaminants  
Examples: dust, fumes, mists not containing oil
- ***R-Series: Oil Resistant***  
Approved for all particulate contaminants, including those containing oil  
Examples: dusts, mists, fumes  
Time restriction of 8 hours when oils are present
- ***P-Series: Oil Proof***  
Approved for all particulate contaminants including those containing oil  
Examples: dust, fumes, mists  
See Manufacturer's time use restrictions on packaging

### **Respirators for IDLH atmospheres**

The following respirators will be used in IDLH atmospheres:

- A full face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
- A combination full face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

## **Respiratory Protection (cont.)**

### **Respirators for atmospheres that are not IDLH**

- The respirators selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

### **Identification of Filters and Cartridges**

- All filters and cartridges shall be labeled and color coded with the NIOSH approval label and insure that the label is intact and legible.

### **Respirator Filter and Canister Replacement**

- An important part of the Respiratory Protection Program includes identifying the useful life of canisters and filters used on air-purifying respirators. Each filter and canister shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant
- Filters shall remain in their original sealed package until needed for immediate use
- If there is no ESLI appropriate for conditions, a change schedule for canisters and cartridges that is based on objective information or data which ensures that canisters and cartridges are changed before the end of their service life is required.
- Filters shall be changed on the most limiting factor below:
  - Prior to expiration date
  - Manufacturer's recommendations for the specific use and environment
  - When requested by employee
  - When contaminate odor is detected
  - When restriction of air flow has occurred as evidenced by an increased effort by user to breathe normally
  - When discoloring of the filter media is evident

### **Physical and Medical Qualifications**

Clancy & Theys will strictly adhere to the OSHA standards 29 CFR 1910.1020 for Medical Evaluations & Fit testing of our employees.

### **Respirator Fit Testing**

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. Whenever a different respirator face piece (size, style, model or make) is used, the Company shall ensure that an employee is fit tested prior to initial use of the respirator and at least annually thereafter.

### **Respirator Operation and Use**

Respirators will only be used following the respiratory protection safety procedures established in this program.

## **Respiratory Protection (cont.)**

The Operations and Use Manuals for each type of respirator will be maintained by the Project Superintendent and be available to all qualified users.

The direct supervisor shall maintained surveillance of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the Company shall reevaluate the continued effectiveness of the respirator.

For continued protection of respirator users, the following general use rules apply:

- Users shall not remove respirators while in a hazardous environment.
- Respirators are to be stored in sealed containers out of harmful atmospheres.
- Store respirators away from heat and moisture.
- Store respirators such that the sealing area does not become distorted or warped.
- Store respirator such that the face piece is protected.

### **Face piece seal protection**

The Company does not permit respirators with tight-fitting face pieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function; or
- Any condition that interferes with the face-to-face piece seal or valve function.
- Corrective glasses or goggles or other personal protective equipment unless such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user. The Company shall ensure this.

### **Continuing Effectiveness of Respirators**

The Company shall ensure that employees leave the respirator use area:

- To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use
- To replace the respirator or the filter, cartridge, or canister elements.
- If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece. In such a case, the Company will replace or repair the respirator before allowing the employee to return to the work area.

### **Procedures for IDLH atmospheres**

No employee of Clancy & Theys is permitted to work in an IDLH atmosphere unless proper employee training has been conducted, proper equipment is selected for use, and all applicable OSHA guidelines are met.

### **Cleaning and Disinfecting**

Clancy & Theys shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. **Cleaning and storage of respirators assigned to a specific employee is the responsibility of the employee** and shall occur:

- As often as necessary to be maintained in a sanitary condition

## **Respiratory Protection (cont.)**

- Before being worn by different individuals
- After each use when maintained for emergency use
- After each use when used in fit testing and training

### **Respirator Inspection**

- All respirators available for "General Use" and those on "Permanent Check-out", will be inspected prior too and after each use. Should any defects be noted, the respirator will be taken to the project Superintendent for repair or discarding.
- Damaged Respirators will be either repaired or replaced.
- **The inspection of respirators loaned on "Permanent Check-out" is the responsibility of that trained employee.**

Respirators shall be inspected as follows:

- Before each use and during cleaning when used in routine situations
- At least monthly and in accordance with the manufacturer's recommendations when maintained for use in emergency situations
- Before and after each use and shall be checked for proper function

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to: the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters and check of elastomeric parts for pliability and signs of deterioration.

### **Respirator Storage**

Respirators are to be stored as follows:

- All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the face piece and exhalation valve.
- Emergency respirators shall be:
  - Kept accessible to the work area
  - Stored in compartments or in covers that are clearly marked as containing emergency respirators
  - Stored in accordance with any applicable manufacturer's instructions

### **Repair of Respirators**

Respirators that fail an inspection or are otherwise found to be defective will be removed from service to be discarded, repaired or adjusted in accordance with the following procedures:

- Repairs or adjustments are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.
- Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed.

# MEMORANDUM

TO: Project Managers  
FROM: Lyle Gurley  
CC: Tick Clancy  
DATE: July 29, 2004  
SUBJECT: Masonry, Stone & Demolition Subcontractors (New Policy)

On current and future projects I will need to obtain a copy of our Masonry & Demolition Contractor's "Respiratory" program.

This new policy was the effect of negotiations with OSHA concerning a recent citation and also taking a proactive approach to preventing "**Silicosis**."

Please provide me with the Contractor's contact information for your current projects and future projects and I will contact them for this information.

Reminder:

*Silicosis is a serious illness caused by breathing silica dust. This dust is created anytime masonry, stone, or concrete is being cut or ground. Our employees as well as our subcontractors must take appropriate safety precautions to prevent this deadly illness. For detailed information about Silicosis please contact me and I will get the information you need.*

*Also, OSHA has a "Special Emphasis" on Silicosis. Which means, they will be visiting any project they see (drive by) that has the potential for creating this hazard.*

Thank you for your cooperation





## SANITATION

### Potable Water

An adequate supply of potable water shall be provided in all places of employment.

*"Potable water" means water which meets the quality standards prescribed in the U.S. Public Health Service Drinking Water Standards, published in 42 CFR part 72, or water which is approved for drinking purposes by the State or local authority having jurisdiction.*

Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.

Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.

A common (shared) drinking cup is prohibited.

Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

### Non-Potable Water

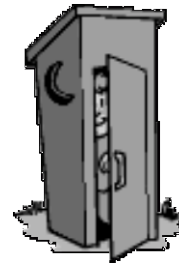
Outlets for non-potable water, such as water for industrial or firefighting purposes only, shall be identified by signs meeting the requirements of Subpart G of the OSHA Standards, to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing non-potable water.

### Toilet Facilities

Toilets shall be provided for employees according to the following:

- 20 or less workers = 1 toilet
- 20 or more workers = 1 toilet seat and 1 urinal per 40 workers.
- 200 or more workers = 1 toilet seat and 1 urinal per 50 workers.



### Washing Facilities

Clancy & Theys shall provide adequate washing facilities for our employees that are engaged in the application of paints, coating, herbicides, or insecticides, or in other operations where contaminants may be harmful to the employees. Such facilities shall be in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances. Washing facilities shall be maintained in a sanitary condition.

### Eating & Drinking Areas

No employee shall be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.

## **Sanitation (cont.)**

### **Vermin Control**

Every enclosed workplace shall be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. A continuing and effective extermination program shall be instituted where their presence is detected.

### **Changing Rooms**

Whenever employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials, change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing shall be provided.



## STAIRWAY AND LADDER SAFETY

### **Introduction**

Any time we use stairways and ladders we are working from an elevated position and as we all know, height is hazardous. This is why stairways and ladders are major sources of injuries and fatalities among construction workers. Many of the injuries are serious enough to require time off the job or even worse, a fatality. OSHA rules apply to all stairways and ladders used in construction, alteration, repair, painting, decorating and demolition of worksites covered by OSHA's construction safety and health standards.

### **General Requirements**

These rules specify when stairways or ladders are required.

- When there is a break in elevation of 19 inches or more and no ramp, runway, embankment or personnel hoist is available, employers must provide a stairway or ladder at all worker points of access.
- When there is only one point of access between levels, employers must keep it clear of obstacles to permit free passage by workers. If free passage becomes restricted, employers must provide a second point of access and ensure that workers use it.
- When there are more than two points of access between levels, employers must ensure that at least one point of access remains clear.

*Note: The standard does not apply to ladders specifically manufactured for scaffold access and egress, but does apply to job-made and manufactured portable ladders intended for general purpose use. Rules for ladders used on or with scaffolds are addressed in 29 CFR 1926.451 Subpart L.*

### **Rules for Ladders**

The following rules apply to *all ladders*:

- Maintain ladders free of oil, grease and other slipping hazards.
- Do not load ladders beyond their maximum intended load nor beyond the manufacturer's rated capacity.
- Use ladders only for their designed purpose.
- Use ladders only on stable and level surfaces unless secured to prevent accidental movement.
- Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Do not use slip-resistant feet as a substitute for exercising care when placing, lashing or holding a ladder upon slippery surfaces.
- Secure ladders placed in areas such as passageways, doorways, or driveways. Ladders shall also be secured where they can be displaced by workplace activities or traffic. Or use a barricade to keep traffic or activity away from the ladder.
- Keep areas clear around the top and bottom of ladders.
- Do not move, shift or extend ladders while in use.
- Use ladders equipped with nonconductive side rails if the worker or the ladder could contact exposed energized electrical equipment.
- Face the ladder when moving up or down.
- Use at least one hand to grasp the ladder when climbing.
- Do not carry objects or loads that could cause loss of balance and falling.
- Do not disassemble extension ladders for the purpose of making two ladders.
- Do not lean step ladders. Spreader bar(s) must be engaged whenever a step ladder is in use.



## **Stairway and Ladder Safety (cont.)**

In addition, the following general requirements apply to all ladders, including ladders built at the jobsite:

- *Double-cleated ladders* or two or more ladders must be provided when ladders are the only way to enter or exit a work area where 25 or more employees work or when a ladder serves simultaneous two-way traffic.
- Ladder rungs, cleats and steps must be parallel, level and uniformly spaced when the ladder is in position for use.
- Rungs, cleats and steps of *portable and fixed ladders* (except as provided below) must not be spaced less than 10 inches apart, nor more than 14 inches apart, along the ladder's side rails.
- Rungs, cleats and steps of *step stools* must not be less than 8 inches apart, nor more than 12 inches apart, between center lines of the rungs, cleats and steps.
- Rungs, cleats and steps at the base section of *extension trestle ladders* must not be less than 8 inches nor more than 18 inches apart, between center lines of the rungs, cleats and steps. The rung spacing on the extension section must not be less than 6 inches nor more than 12 inches.
- Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.
- When splicing side rails, the resulting side rail must be equivalent in strength to a one-piece side rail made of the same material.
- Two or more separate ladders used to reach an elevated work area must be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders.
- Ladder components must be surfaced to prevent snagging of clothing and injury from punctures or lacerations.
- *Wood ladders* must not be coated with any opaque covering except for identification or warning labels, which may be placed only on one face of a side rail.

*Note:* A Competent Person must inspect ladders for visible defects periodically and after any incident that could affect their safe use.

### **Specific Types of Ladders**

- Do not use *single-rail ladders*.
- Use *non-self-supporting ladders* at an angle where the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder.
- Use *wooden ladders* built at the jobsite with spliced side rails at an angle where the horizontal distance is one-eighth of the working length of the ladder.
- The top of a non-self-supporting ladder must be placed with two rails supported equally unless it is equipped with a single support attachment.

### **Stepladders**

- Do not use the top or top step of a stepladder as a step.
- Do not use cross bracing on the rear section of stepladders for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- Metal spreader or locking devices must be provided on stepladders to hold the front and back sections in an open position when ladders are being used.

### **Portable Ladders**

- The minimum clear distance between side rails for all portable ladders must be 11.5 inches.
- The rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping.

## **Stairway and Ladder Safety (cont.)**

- When portable ladders are used for access to an upper landing surface, the side rails must extend at least 3 feet above the upper landing surface. When such an extension is not possible, the ladder must be secured and a grasping device such as a grab rail must be provided to assist workers in mounting and dismounting the ladder.
- A ladder extension must not deflect under a load that would cause the ladder to slip off its supports.

### **Defective Ladders**

Ladders needing repairs are subject to the following rules:

- Portable ladders with structural defects such as broken or missing rungs, cleats or steps, broken or split rails, corroded components or other faulty or defective components must immediately be marked defective or tagged with "Do Not Use" or similar language and withdrawn from service until repaired.
- Fixed ladders with structural defects such as broken or missing rungs, cleats or steps, broken or split rails or corroded components must be withdrawn from service until repaired.
- Defective fixed ladders are considered withdrawn from use when they are immediately tagged with "Do Not Use" or similar language, *or* marked in a manner that identifies them as defective, *or* blocked such as with a plywood attachment that spans several rungs.
- Ladder repairs must restore the ladder to a condition meeting its original design criteria before the ladder is returned to use.
- Defective ladders are not to be taken home by any employee of Clancy & Theys.

### **Rules for Stairways**

The rules covering stairways and their components generally depend on how and when stairs are used. Specifically, there are rules for stairs used during construction and stairs used temporarily during construction, as well as rules governing stair rails and handrails.

### **Stairways Used During Construction**

The following requirements apply to all *stairways used during construction*:

- Stairways that will not be a permanent part of the building under construction must have landings at least 30 inches deep and 22 inches wide at every 12 feet or less of vertical rise.
- Stairways must be installed at least 30 degrees and no more than 50 degrees from the horizontal.
- Variations in riser height or stair tread depth must not exceed 1/4 inch in any stairway system, including any foundation structure used as one or more treads of the stairs.
- Doors and gates opening directly onto a stairway must have a platform that extends at least 20 inches beyond the swing of the door or gate.
- Metal pan landings and metal pan treads must be secured in place before filling.
- Stairway parts must be free of dangerous projections such as protruding nails.
- Slippery conditions on stairways must be corrected.
- Workers must not use spiral stairways that will not be a permanent part of the structure.

### **Temporary Stairs**

- The following requirements apply to *stairways used temporarily during construction*, except during construction of the stairway.
- Do not use stairways with metal pan landings and treads if the treads and/or landings have not been filled in with concrete or other materials except when the pans of the stairs and/or landings are temporarily filled in with wood or other materials. All treads and landings must be replaced when worn below the top edge of the pan.
- Do not use skeleton metal frame structures and steps (where treads and/or landings will be installed later) unless the stairs are fitted with secured temporary treads and landings.

*Note: Temporary treads must be made of wood or other solid material and installed the full width and depth of the stair.*

## **Stairway and Ladder Safety (cont.)**

### **Stair Rails**

The following general requirements apply to all stair rails:

- Stairways with four or more risers or rising more than 30 inches in height, whichever is less, must be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge must be no more than 37 inches nor less than 36 inches from the upper surface of the stair rail to the surface of the tread.
- Stair rails must be not less than 36 inches in height.
- Top edges of stair rail systems used as handrails must not be more than 37 inches high nor less than 36 inches from the upper surface of the stair rail system to the surface of the tread.
- Stair rail systems and handrails must be surfaced to prevent injuries such as punctures or lacerations and to keep clothing from snagging.
- Ends of stair rail systems and handrails must be built to prevent dangerous projections, such as rails protruding beyond the end posts of the system.
- Unprotected sides and edges of stairway landings must have standard 42-inch guardrail systems.
- Intermediate vertical members, such as balusters used as guardrails, must not be more than 19 inches apart.
- Other intermediate structural members, when used, must be installed so that no openings are more than 19 inches wide.
- Screens or mesh, when used, must extend from the top rail to the stairway step and along the opening between top rail supports.

### **Handrails**

Requirements for handrails are as follows:

- Handrails and top rails of the stair rail systems must be able to withstand, without failure, at least 200 pounds of weight applied within 2 inches of the top edge in any downward or outward direction, at any point along the top edge.
- Handrails must not be more than 37 inches high nor less than 30 inches from the upper surface of the handrail to the surface of the tread.
- Handrails must provide an adequate handhold for employees to grasp to prevent falls.
- Temporary handrails must have a minimum clearance of 3 inches between the handrail and walls, stair rail systems and other objects.
- Stairways with four or more risers, or that rise more than 30 inches in height, whichever is less, must have at least one handrail.
- Winding or spiral stairways must have a handrail to prevent use of areas where the tread width is less than 6 inches.

### **Midrails**

- Midrails, screens, mesh, intermediate vertical members or equivalent intermediate structural members must be provided between the top rail and stairway steps to the stair rail system.
- When midrails are used, they must be located midway between the top of the stair rail system and the stairway steps.

### **Training Requirements**

Clancy & Theys shall train all employees to recognize hazards related to ladders and stairways, and instruct them to minimize these hazards.

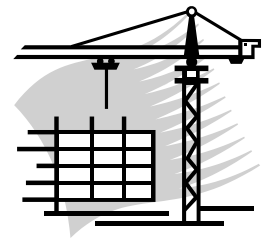
Clancy & Theys shall ensure that each employee is trained by a Competent Person in the following areas, as applicable:

### **Stairway and Ladder Safety (cont.)**

- Nature of fall hazards in the work area
- Correct procedures for erecting, maintaining and disassembling the fall protection systems to be used
- Proper construction, use, placement and care in handling of all stairways and ladders
- Maximum intended load-carrying capacities of ladders used

#### **Retaining**

Clancy & Theys will retrain each employee as necessary to maintain their understanding and knowledge on the safe use and construction of ladders and stairs.



## **STEEL ERECTION SAFETY PROGRAM**

### **Policy**

It is not a practice for Clancy & Theys to self perform steel erection. It is standard practice for this task to be subcontracted. Subcontractors shall have a written Steel Erection Program in place and will be responsible for the safety of their employees as well as not endangering the employees of Clancy & Theys or other subcontractors. Steel erection contractors are hired and will comply with all applicable OSHA, Government Agencies, Industry Standards and this Safety Program.

It is the policy of Clancy & Theys to ensure that its employees are provided with the proper training and equipment necessary to safely perform steel erection if and when the need arises. No employee is permitted to work in the process of steel erection beyond their level of training. Employees are required to adhere to this manual and all OSHA standards covered in §1926.750 – Subpart R.

### **Pre-Erection Procedures**

#### **Written Approvals**

Clancy & Theys will receive from the appropriate engineer(s) or testing service the following written approvals prior to commencement of the erection process. This information will be copied and forwarded to the steel erection contractor.

The concrete in the footings, piers and walls and the mortar in the masonry piers and walls have attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.

Any repairs, replacements and modifications to the anchor bolts were conducted in accordance with §1926.755(b). It will be the policy of Clancy & Theys not to begin the steel erection process until both items listed above are received in writing.

#### **Site Preparations**

The following will be provided and maintained for or by Clancy & Theys, depending on site control, before and throughout the steel erection process:

- Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment and the material to be erected; and means and methods for pedestrian and vehicular control.
- A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment.

#### **Pre Planning of Lifts**

Clancy & Theys will ensure that all hoisting operations in steel erection shall be pre-planned to ensure that the requirements of § 1926.753(d) are met.

#### **Working under loads**

Routes for suspended loads shall be pre-planned to ensure that no employee is required to work directly below a suspended load except for:

## **Steel Erection Safety Program (cont.)**

- Employees engaged in the initial connection of the steel or employees necessary for the hooking or unhooking of the load.
- When working under suspended loads, the following criteria shall be met:
  - Materials being hoisted shall be rigged to prevent unintentional displacement
  - Hooks with self-closing safety latches or their equivalent shall be used to prevent components from slipping out of the hook
  - All loads shall be rigged by a qualified rigger

### **Crane Inspections**

The following crane inspections will be in accordance with the ANSI B30.5-1968 standards:

- See "Inspection of Cranes In Steel Erection" form included in this policy.
- If any deficiency is identified, an immediate determination shall be made by the competent person as to whether the deficiency constitutes a hazard.
- If the deficiency is determined to constitute a hazard, the hoisting equipment shall be removed from service until the deficiency has been corrected.

### **Rigging Inspections**

Rigging inspection will be performed by a Qualified Person prior to each shift and in accordance to OSHA 1926.251 – “Rigging Equipment for Handling Material” standards.

### **Crane Operator Responsibility**

- **It will be the sole responsibility of the crane operator to make decisions regarding the hoisting of materials or personnel. The operator's decisions will be based on their expertise as a competent and qualified crane operator.**
- **Clancy & Theys will not require or direct a hoist operation in which the crane operator deems unsafe.**
- **Whenever there is any doubt as to safety, the operator shall have the full authority to stop and refuse to handle loads until safety has been assured.**

### **Hoisting of Personnel**

It is Clancy & Theys’ erector’s policy that no employee will be hoisted by a crane unless determined by a competent person that it will be impractical to perform erection tasks using another conventional method.

If a person is to be hoisted by a crane, the following shall be in effect:

- NO RIDING The Headache Ball is permitted
- Only approved Man Baskets shall be used
- This process shall be used only as a last resort

### **Safety Latches and Hooks**

Safety latches and hooks will not be deactivated or made inoperable unless directed and supervised by a competent person and a qualified rigger.

## **Steel Erection Safety Program (cont.)**

### *EXCEPTION:*

*When a qualified rigger has determined that the hoisting and placing of purlins, joists, and columns can be performed more safely by doing so.*

### **Multiple Rigging**

- Multiple rigging shall only be made with a Multiple Rigging Assembly suited for the task.
- Picks shall not exceed a maximum number of 5 members per lift.
- Only beams and similar structural steel shall be lifted.
- Clancy & Theys will train its employees in multiple rigging techniques and the avoidance of the hazards associated with a multiple rigging lift.
- Multiple rigging lifts shall only be performed if the rigging equipment manufacturer allows such task.
- Multiple lift rigging assembly components shall be specifically designed for the task.
- The total load shall not exceed capacity of the rigging assembly.
- Rigging shall be from the top down and members are to be rigged at least 7' apart.

### **Building Structural Steel Assembly**

Structural stability shall be maintained at all times during the erection process. The following additional requirements shall apply for multi-story structures:

- The permanent floors shall be installed as the erection of structural members progresses, and there shall be not more than eight stories between the erection floor and the upper-most permanent floor, except where the structural integrity is maintained as a result of the design.
- At no time shall there be more than four floors or 48 feet, whichever is less, of unfinished bolting or welding above the foundation or uppermost permanently secured floor, except where the structural integrity is maintained as a result of the design.
- A fully planked or decked floor or nets shall be maintained within two stories or 30 feet, whichever is less, directly under any erection work being performed.

### **Walking/working surfaces**

**Shear connectors** (such as headed steel studs, steel bars or steel lugs), reinforcing bars, deformed anchors or threaded studs shall not be attached to the top flanges of beams, joists or beam attachments so that they project vertically from or horizontally across the top flange of the member until after the metal decking, or other walking/working surface, has been installed.

When shear connectors are used in construction of composite floors, roofs and bridge decks, employees shall lay out and install the shear connectors after the metal decking has been installed, using the metal decking as a working platform. Shear connectors shall not be installed from within a controlled decking zone "CDZ"

### **Slip resistance of skeletal structural steel**

Workers shall not be permitted to walk the top surface of any structural steel member installed after July 18, 2006 that has been coated with paint or similar material unless documentation or certification that 1926.750 Appendix B has been met.

## **Steel Erection Safety Program (cont.)**

### **Plumbing-up**

When deemed necessary by the competent person, plumbing-up equipment shall be installed in conjunction with the steel erection process to ensure the stability of the structure.

When used, plumbing-up equipment shall be in place and properly installed before the structure is loaded with construction material such as loads of joists, bundles of decking or bundles of bridging.

Plumbing-up equipment shall be removed only when approved by a competent person.

### **Metal decking**

Bundle packaging and strapping shall not be used for hoisting unless specifically designed for that purpose.

If loose items such as dunnage, flashing, or other materials are placed on the top of metal decking bundles to be hoisted, such items shall be secured to the bundles.

Bundles of metal decking on joists shall be landed in accordance with 1926.757(e)(4).

Metal decking bundles shall be landed on framing members so that enough support is provided to allow the bundles to be unbanded without dislodging the bundles from the supports.

At the end of the shift or when environmental or jobsite conditions require, metal decking shall be secured against displacement.

### **Roof and floor holes and openings**

Metal decking at roof and floor holes and openings shall be installed as follows:

- Framed metal deck openings shall have structural members turned down to allow continuous deck installation except where not allowed by structural design constraints or constructability.
- Roof and floor holes and openings shall be decked over. Where large size, configuration or other structural design does not allow openings to be decked over (such as elevator shafts, stair wells, etc.) employees shall be protected in accordance with;
- 1926.760(a)(1) Each employee engaged in a steel erection activity who is on a walking/working surface with an unprotected side or edge more than 15 feet (4.6 m) above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.
- Metal decking holes and openings shall not be cut until immediately prior to being permanently filled with the equipment or structure needed or intended to fulfill its specific use, or they shall be immediately covered.

### **Covering roof and floor openings**

Covers for roof and floor openings shall be capable of supporting, without failure, twice the weight of the employees, equipment and materials that may be imposed on the cover at any one time.



## **Steel Erection Safety Program (cont.)**

All covers shall be secured when installed to prevent accidental displacement by the wind, equipment or employees.

All covers shall be painted with high-visibility paint or shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.

Smoke dome or skylight fixtures that have been installed, are not considered covers for the purpose of this section unless they meet the proper strength requirements.

### **Decking gaps around columns**

Wire mesh, exterior plywood, or equivalent, shall be installed around columns where planks or metal decking do not fit tightly. The materials used must be of sufficient strength to provide fall protection for personnel and prevent objects from falling through.

### **Installation of metal decking**

Metal decking shall be laid tightly and immediately secured upon placement to prevent accidental movement or displacement.

During initial placement, metal decking panels shall be placed to ensure full support by structural members.

### **General requirements for erection stability**

All columns shall be anchored by a minimum of 4 anchor bolts.

Each column anchor bolt assembly, including the column-to-base plate weld and the column foundation, shall be designed to resist a minimum eccentric gravity load of 300 pounds located 18 inches from the extreme outer face of the column in each direction at the top of the column shaft.

Columns shall be set on level finished floors, pre-grouted leveling plates, leveling nuts, or shim packs which are adequate to transfer the construction loads.

Columns shall be evaluated by a competent person to determine whether guying or bracing is needed; if guying or bracing is needed, it shall be installed.

### **Beams & Columns**

During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with at least two bolts per connection and drawn up wrench-tight.

A Competent Person shall determine if more than two bolts are necessary to ensure the stability of cantilevered members. If additional bolts are needed, they shall be installed.

### **Diagonal bracing**

Solid web structural members used as diagonal bracing shall be secured by at least one bolt per connection drawn up wrench-tight.

## **Steel Erection Safety Program (cont.)**

### **Double connections at columns and/or at beam webs over a column**

When two structural members on opposite sides of a column web, or a beam web over a column, are connected sharing common connection holes, at least one bolt with its wrench-tight nut shall remain connected to the first member unless a shop-attached or field-attached seat or equivalent connection device is supplied with the member to secure the first member and prevent the column from being displaced.

If a seat or equivalent device is used, the seat (or device) shall be designed to support the load during the double connection process. It shall be adequately bolted or welded to both a supporting member and the first member before the nuts on the shared bolts are removed to make the double connection.

### **Perimeter columns**

Perimeter columns shall not be erected unless:

- The perimeter columns extend a minimum of 48 inches above the finished floor to permit installation of perimeter safety cables prior to erection of the next tier, except where constructability does not allow.
- The perimeter columns have holes or other devices in or attached to perimeter columns at 42-45 inches above the finished floor and the midpoint between the finished floor and the top cable to permit installation of perimeter safety cables.

### **Open Web Steel Joist**

Except as provided in the following section (\*), where steel joists are used and columns are not framed in at least two directions with solid web structural steel members, a steel joist shall be field-bolted at the column to provide lateral stability to the column during erection. For the installation of this joist:

- A vertical stabilizer plate shall be provided on each column for steel joists. The plate shall be a minimum of 6 inch by 6 inch and shall extend at least 3 inches below the bottom chord of the joist with a 13/16 inch hole to provide an attachment point for guying or plumbing cables.
- The bottom chords of steel joists at columns shall be stabilized to prevent rotation during erection.
- Hoisting cables shall not be released until the seat at each end of the steel joist is field-bolted, and each end of the bottom chord is restrained by the column stabilizer plate.

\* Where constructability does not allow a steel joist to be installed at the column an alternate means of stabilizing joists shall be installed on both sides near the column and shall provide stability equivalent to the paragraph above, be designed by a qualified person, be shop installed; and be included in the erection drawings. Hoisting cables shall not be released until the seat at each end of the steel joist is field-bolted and the joist is stabilized.

Where steel joists at or near columns span 60 feet or less, the joist shall be designed with sufficient strength to allow one employee to release the hoisting cable without the need for erection bridging.

Where steel joists at or near columns span more than 60 feet, the joists shall be set in tandem with all bridging installed unless an alternative method of erection, which provides equivalent stability to the steel joist, is designed by a qualified person and is included in the site-specific erection plan.

## **Steel Erection Safety Program (cont.)**

A steel joist or steel joist girder shall not be placed on any support structure unless such structure is stabilized.

When steel joist(s) are landed on a structure, they shall be secured to prevent unintentional displacement prior to installation.

No modification that affects the strength of a steel joist or steel joist girder shall be made without the approval of the project structural engineer of record.

### **Field-bolted joists**

Except for steel joists that have been pre-assembled into panels, connections of individual steel joists to steel structures in bays of 40 feet (12.2 m) or more shall be fabricated to allow for field bolting during erection.

- These connections shall be field-bolted unless constructability does not allow.
- Steel joists and steel joist girders shall not be used as anchorage points for a fall arrest system unless written approval to do so is obtained from a qualified person.
- A bridging terminus point shall be established before bridging is installed.

### **Attachment of steel joists and steel joist girders**

Each end of "K" series steel joists shall be attached to the support structure with a minimum of two 1/8-inch fillet welds 1 inch long or with two 1/2-inch bolts, or the equivalent.

Each end of "LH" and "DLH" series steel joists and steel joist girders shall be attached to the support structure with a minimum of two 1/4-inch fillet welds 2 inches long, or with two 3/4-inch bolts, or the equivalent.

Each steel joist shall be attached to the support structure, at least at one end on both sides of the seat, immediately upon placement in the final erection position and before additional joists are placed.

Panels that have been pre-assembled from steel joists with bridging shall be attached to the structure at each corner before the hoisting cables are released.

### **Erection of steel joists**

Before hoisting cables are released, both sides of the seat of one end of each steel joist that requires bridging shall be attached to the support structure. (Refer to Tables A and B.)

For joists over 60 feet, both ends of the joist shall be attached as specified in the section above "Attachment of steel joist and steel girders" and the provisions of the "Erection Bridging" section are met before the hoisting cables are released.

On steel joists that do not require erection bridging under Tables A and B, only one employee shall be allowed on the joist until all bridging is installed and anchored.

Employees shall not be allowed on steel joists where the span of the steel joist is equal to or greater than the span shown in Tables A and B except in accordance with the section on "Erection Bridging."

## **Steel Erection Safety Program (cont.)**

When permanent bridging terminus points cannot be used during erection, additional temporary bridging terminus points are required to provide stability.

Table A -- Erection Bridging for Short Span Joists	
Joist	Span
8L1	NM
10K1	NM
12K1	23-0
12K3	NM
12K5	NM
14K1	27-0
14K3	NM
14K4	NM
14K6	NM
16K2	29-0
16K3	30-0
16K4	32-0
16K5	32-0
16K6	NM
16K7	NM
16K9	NM
18K3	31-0
18K4	32-0
18K5	33-0
18K6	35-0
18K7	NM
18K9	NM
18K10	NM
20K3	32-0
20K4	34-0
20K5	34-0
20K6	36-0
20K7	39-0
20K9	39-0
20K10	NM
22K4	34-0
22K5	35-0
22K6	36-0
22K7	40-0
22K9	40-0
22K10	40-0
22K11	40-0
24K4	36-0
24K5	38-0

## Steel Erection Safety Program (cont.)

Table A -- Erection Bridging for Short Span Joists	
24K6	39-0
24K7	43-0
24K8	43-0
24K9	44-0
24K10	NM
24K12	NM
26K5	38-0
26K6	39-0
26K7	43-0
26K8	44-0
26K9	45-0
26K10	49-0
26K12	NM
28K6	40-0
28K7	43-0
28K8	44-0
28K9	45-0
28K10	49-0
28K12	53-0
30K7	44-0
30K8	45-0
30K9	45-0
30K10	50-0
30K11	52-0
30K12	54-0
10KCS1	NM
10KCS2	NM
10KCS3	NM
12KCS1	NM
12KCS2	NM
12KCS3	NM
14KCS1	NM
14KCS2	NM
14KCS3	NM
16KCS2	NM
16KCS3	NM
16KCS4	NM
16KCS5	NM
18KCS2	35-0
18KCS3	NM
18KCS4	NM
18KCS5	NM
20KCS2	36-0
20KCS3	39-0
20KCS4	NM

## Steel Erection Safety Program (cont.)

Table A -- Erection Bridging for Short Span Joists	
20KCS5	NM
22KCS2	36-0
22KCS3	40-0
22KCS4	NM
22KCS5	NM
24KCS2	39-0
24KCS3	44-0
24KCS4	NM
24KCS5	NM
26KCS2	39-0
26KCS3	44-0
26KCS4	NM
26KCS5	NM
28KCS2	40-0
28KCS3	45-0
28KCS4	53-0
28KCS5	53-0
30KCS3	45-0
30KCS4	54-0
30KCS5	54-0

NM= diagonal bolted bridging not mandatory for joists under 40 feet

Table B -- Erection Bridging for Long Span Joists	
Joist	Span
18LH02	33-0
18LH03	NM
18LH04	NM
18LH05	NM
18LH06	NM
18LH07	NM
18LH08	NM
18LH09	NM
20LH02	33-0
20LH03	38-0
20LH04	NM
20LH05	NM
20LH06	NM
20LH07	NM
20LH08	NM
20LH09	NM
20LH10	NM
24LH03	35-0

## Steel Erection Safety Program (cont.)

<b>Table B -- Erection Bridging for Long Span Joists</b>	
24LH04	39-0
24LH05	40-0
24LH06	45-0
24LH07	NM
24LH08	NM
24LH09	NM
24LH10	NM
24LH11	NM
28LH05	42-0
28LH06	46-0
28LH07	NM
28LH08	NM
28LH09	NM
28LH10	NM
28LH11	NM
28LH12	NM
28LH13	NM
32LH06	47-0 through 60-0
32LH07	47-0 through 60-0
32LH08	55-0 through 60-0
32LH09	NM through 60-0
32LH10	NM through 60-0
32LH11	NM through 60-0
32LH12	NM through 60-0
32LH13	NM through 60-0
32LH14	NM through 60-0
32LH15	NM through 60-0
36LH07	47-0 through 60-0
36LH08	47-0 through 60-0
36LH09	57-0 through 60-0
36LH10	NM through 60-0
36LH11	NM through 60-0
36LH12	NM through 60-0
36LH13	NM through 60-0
36LH14	NM through 60-0
36LH15	NM through 60-0

NM = diagonal bolted bridging not mandatory for joists under 40 feet.

## **Steel Erection Safety Program (cont.)**

### **Erection bridging**

Where the span of the steel joist is equal to or greater than the span shown in Tables A and B, the following shall apply:

- A row of bolted diagonal erection bridging shall be installed near the mid-span of the steel joist
- Hoisting cables shall not be released until this bolted diagonal erection bridging is installed and anchored
- No more than one employee shall be allowed on these spans until all other bridging is installed and anchored

Where the span of the steel joist is over 60 feet and up and including 100 feet, the following shall apply:

- All rows of bridging shall be bolted diagonal bridging
- Two rows of bolted diagonal erection bridging shall be installed near the third points of the steel joist
- Hoisting cables shall not be released until this bolted diagonal erection bridging is installed and anchored
- No more than two employees shall be allowed on these spans until all other bridging is installed and anchored

Where the span of the steel joist is over 100 feet and up to and including 144 feet, the following shall apply:

- All rows of bridging shall be bolted diagonal bridging
- Hoisting cables shall not be released until all bridging is installed and anchored
- No more than two employees shall be allowed on these spans until all bridging is installed and anchored

For steel members spanning over 144 feet:

- The erection methods used shall be in accordance with the “Beams & Columns” section.

Where any steel joist specified in this section is a bottom chord-bearing joist, a row of bolted diagonal bridging shall be provided near the support(s). This bridging shall be installed and anchored before the hoisting cable(s) is released.

When bolted diagonal erection bridging is required by this section, the following shall apply:

- The bridging shall be indicated on the erection drawing
- The erection drawing shall be the exclusive indicator of the proper placement of this bridging
- Shop-installed bridging clips, or functional equivalents, shall be used where the bridging bolts to the steel joists
- When two pieces of bridging are attached to the steel joist by a common bolt, the nut that secures the first piece of bridging shall not be removed from the bolt for the attachment of the second
- Bridging attachments shall not protrude above the top chord of the steel joist

### **Landing and placing loads**

During the construction period, the employer placing a load on steel joists shall ensure that the load is distributed so as not to exceed the carrying capacity of any steel joist.



## **Steel Erection Safety Program (cont.)**

*\*Except for the sections below, no construction loads are allowed on the steel joists until all bridging is installed and anchored and all joist-bearing ends are attached.*

The weight of a bundle of joist bridging shall not exceed a total of 1,000 pounds. A bundle of joist bridging shall be placed on a minimum of three steel joists that are secured at one end. The edge of the bridging bundle shall be positioned within 1 foot of the secured end.

Landing and placing loads -- Continued

\*No bundle of decking may be placed on steel joists until all bridging has been installed and anchored and all joist bearing ends attached, unless all of the following conditions are met:

- The employer has first determined from a qualified person and documented in a site-specific erection plan that the structure or portion of the structure is capable of supporting the load
- The bundle of decking is placed on a minimum of three steel joists
- The joists supporting the bundle of decking are attached at both ends
- At least one row of bridging is installed and anchored
- The total weight of the bundle of decking does not exceed 4,000 pounds
- Placement of the bundle of decking shall be in accordance with this section

The edge of the construction load shall be placed within 1 foot of the bearing surface of the joist end.

### **Falling Object Protection**

Securing loose items aloft. All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement.

Protection from falling objects other than materials being hoisted. The controlling contractor shall bar other construction processes below steel erection unless overhead protection for the employees below is provided.

### **Fall Protection for Steel Erectors**

Except as provided by the "Controlled Decking Zone" section, each employee engaged in a steel erection activity who is on a walking/working surface with an unprotected side or edge more than 15 feet above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.

### **Perimeter safety cables**

- On multi-story structures, perimeter safety cables shall be installed at the final interior and exterior perimeters of the floors as soon as the metal decking has been installed.

### **Connectors**

Each connector shall:

- Be protected in accordance with Except as provided by the "Controlled Decking Zone" section, each employee engaged in a steel erection activity who is on a walking/working surface with an unprotected side or edge more than 15 feet above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.
- Be protected from fall hazards of more than two stories or 30 feet above a lower level, whichever is less

## **Steel Erection Safety Program (cont.)**

- Have completed connector training in accordance with the “Training” section
- Be provided, at heights over 15 and up to 30 feet above a lower level, with a personal fall arrest system, positioning device system or fall restraint system and wear the equipment necessary to be able to be tied off or be provided with other means of protection from fall hazards.

### **Controlled Decking Zone (CDZ)**

A controlled decking zone may be established in that area of the structure over 15 feet and up to 30 feet above a lower level where metal decking is initially being installed and forms the leading edge of a work area. In each CDZ, the following shall apply:

- Each employee working at the leading edge in a CDZ shall be protected from fall hazards of more than two stories or 30 feet, whichever is less.
- Access to a CDZ shall be limited to only those employees engaged in leading edge work.
- The boundaries of a CDZ shall be designated and clearly marked.
- The CDZ shall not be more than 90 feet wide and 90 feet deep from any leading edge.
- The CDZ shall be marked by the use of control lines or the equivalent.
- Each employee working in a CDZ shall have completed CDZ training.
- Unsecured decking in a CDZ shall not exceed 3,000 square feet.
- Safety deck attachments shall be installed in the CDZ from the leading edge back to the control line and shall have at least two attachments for each metal decking panel.
- Final deck attachments and installation of shear connectors shall not be performed in the CDZ.

### **Criteria for fall protection equipment**

- Guardrail systems, safety net systems, personal fall arrest systems, positioning device systems and their components shall conform to the criteria in § 1926.502 in the OSHA Standards.

### **Custody of fall protection**

Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative:

- Has directed the steel erector to leave the fall protection in place
- Has inspected and accepted control and responsibility of the fall protection prior to authorizing persons other than steel erectors to work in the area

### **Training**

Training required by this section shall be provided by a qualified person(s).

#### ***Fall hazard training***

The employer shall provide a training program for all employees exposed to fall hazards. The program shall include training and instruction in the following areas:

- The recognition and identification of fall hazards in the work area
- The use and operation of guardrail systems (including perimeter safety cable systems), personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems, and other protection to be used
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used
- The procedures to be followed to prevent falls to lower levels and through or into holes and openings in walking/working surfaces and walls

#### ***Special training programs***

In addition to the training required in paragraphs (a) and (b) of this section, the employer shall provide special training to employees engaged in the following activities:

## **Steel Erection Safety Program (cont.)**

### **Multiple lift rigging procedure**

The employer shall ensure that each employee who performs multiple lift rigging has been provided training in the following areas:

- The nature of the hazards associated with multiple lifts
- The proper procedures and equipment to perform multiple lifts

### **Connector procedures**

The employer shall ensure that each connector has been provided training in the following areas:

- The nature of the hazards associated with connecting
- The establishment, access, proper connecting techniques and work practices

### **Controlled Decking Zone Procedures**

Where CDZs are being used, the employer shall assure that each employee has been provided training in the following areas:

- The nature of the hazards associated with work within a controlled decking zone
- The establishment, access, proper installation techniques and work practices



## **SUBSTANCE ABUSE POLICY**

As a part of Clancy & Theys Construction Company's commitment to safeguarding the health of its employees, providing a safe place for its employees to work, and supplying its customers with the highest quality construction and service possible, this policy establishes the company's position on the use or abuse of alcohol, drugs or other controlled substances by its employees. Because substance abuse, either while at work or away from work, can seriously endanger the safety of employees and render it impossible to supply top quality construction and service, Clancy & Theys has established this program to detect users and remove abusers of alcohol, drugs or other controlled substances. Clancy & Theys is committed to preventing the use and/or presence of these substances in the workplace. It is also the policy of Clancy & Theys to provide as an employee benefit, the Clancy & Theys Employee Assistance Program, in order to deal with substance abuse and other problems that company employees and their families might encounter.

### **The intent of this policy is:**

1. To provide clear guidelines and consistent procedures for handling incidents of employees abuse of alcohol, drugs or controlled substances that affect job performance, and to make every effort to institute and maintain a drug-free workplace.
2. To ensure that employees conform to all state and federal regulations regarding alcohol, drugs or controlled substances.
3. To provide substance abuse prevention education for all employees and supervisory training regarding problem recognition and the implementation of this policy.
4. To offer assistance to the employees and their family members in resolving problems which affect job performance.

### **The essential parts of this program are as follows:**

1. Clancy & Theys prohibits the unlawful manufacture, distribution, dispensation, presence or use of alcohol, drugs or other controlled substances on its property or worksites. Employees violating this prohibition will be referred to Clancy & Theys' EAP, or disciplined up to and including, termination.
2. Clancy & Theys will present a Drug Free Awareness Education Program for all supervisors and employees on a periodic basis.
3. This policy applies to all employees of Clancy & Theys.
4. The Clancy & Theys Employee Assistance Program (EAP) is available to all employees and their families for the purpose of dealing with alcohol or drug problems before these problems become serious enough to affect job performance or become life threatening.

## **Substance Abuse Policy (cont.)**

5. On projects covered by the Drug Free Workplace Act or other federal or state contracts, laws or regulations, all employees will be given a copy of this policy, be required to notify the company of any conviction of a criminal drug statute in the workplace within 5 days, and acknowledge receipt of this policy by signing the Employee Acknowledgement Form.

### **Miscellaneous Matters**

- A. This Substance Abuse Program policy primarily governs company actions in the area of alcohol, drugs or other controlled substances. Other company policies may be applicable in this area to the extent that they do not conflict with this policy.
- B. In any of the situations described in this policy, if prescription drugs are detected and the applicant or employee is able to prove medical or professional authorization for the prescription, the company reserves the right to contact the individual's physician or professional for verification and review of the situation.
- C. No part of this policy, nor any of the procedures hereunder, is intended to affect the company's right to manage its workplace, to discipline its employees, or guarantee employment, continued employment or terms or conditions of employment. The Substance Abuse Program in no way creates an obligation or contract of employment. The company reserves the right to alter or amend the program at any time in its sole discretion.
- D. If any part of this policy is determined to be void or unenforceable under state or federal law, the remainder of the policy, to the extent possible, will remain in full force and effect.
- E. Employees are the company's most valuable resource and, for that reason, their health and safety are of paramount concern. Therefore, as a condition of employment, all employees are required to read and abide by the terms of this amended policy.
- F. To ensure that such drugs and alcohol do not enter or affect the workplace and to enforce the company's policy, the company may take any or all of the following steps while employees are on company property, company jobsites, or during working hours:
  - Observe actions of employees
  - Counsel employees
  - Search employees' personal items
  - Search employees' persons
  - Require searches with canines
  - Chemical screening (e.g. urinalysis, blood tests, etc.)

There are two exceptions. The first exception will apply to the moderate use of alcohol beverages at company-sponsored social functions; such exceptions must be authorized specifically by management.

The second exception is for prescription drugs for which the employee has a valid prescription. Prescription drugs may not be abused and must be taken only according to the doctor's instructions.

Searches of employees' personal property will take place only in the employees' presence. All searches under this policy will occur with the utmost discretion and consideration for the employee(s) involved. Employees refusing to allow a search will be discharged. Law enforcement officials will be notified whenever illegal drugs are found. On May 8, 1992, the company began random screening for all employees.

### **Substance Abuse Policy (cont.)**

- G. Employees who test positive may be required, at the company's discretion, to enroll in and satisfactorily complete a rehabilitation program. Failure to do so may result in termination. Employees who test positive may also be terminated or removed from certain jobs if the company deems it advisable. Reinstatement to employment may be contingent on success in a rehabilitation program.

In addition, employees who test positive and who enroll in a rehabilitation program are subject to further tests for up to five years at the company's discretion. A positive reading on a subsequent test may also result in removal from work, termination, or other actions deemed advisable by the company.

- H. Any employee randomly selected to be tested and refusing to do so will be subject to disciplinary action, which could include immediate dismissal.
- I. Employees are encouraged to approach the company at any time with any questions they have about the company's drug and alcohol policy as amended herein.
- J. Post work-related accident drug screening **will** be performed.

THESE GUIDELINES ARE NOT INTENDED TO FORM AND DOES NOT FORM A CONTRACT BETWEEN THE COMPANY AND ANY EMPLOYEE. BECAUSE CIRCUMSTANCES MY CHANGE, THESE GUIDELINES DO NOT PROMISE OR GUARANTEE ANY PARTICULAR TERMS, CONDITIONS, RULES, REGULATIONS, PRACTICES OR LENGTH OF EMPLOYMENT WITH THE COMPANY.

# **VIOLATION DISCIPLINARY ACTION POLICY**

## **Strategy**

In most cases, a qualified and trained worker will make a conscience choice between a known safe practice and an unsafe alternative. Both the safe way and the unsafe way have advantages and disadvantages. The worker will choose the alternative which, as he sees it, is the most attractive at the time. The Superintendent/Foreman must actively develop good behaviors in the worker and instill the general readiness to choose the safe alternative in all situations. Specifically, the Superintendent/Foreman must:

- Emphasize and increase the advantages and satisfactions associated with working safely.
- Eliminate, where possible, any existing disadvantages or dissatisfactions associated with working safely.
- Emphasize and increase the disadvantages and dissatisfaction associated with working unsafely.
- Eliminate, where possible, any existing advantages or satisfaction associated with working unsafely.

The above four principles amount to an incentive-deterrent strategy that increases the incentives to work safely and eliminates the incentives to work unsafely. The Superintendent/Foreman can increase the general readiness of workers to choose the safe alternative by:

### **Increasing Incentives to Work Safely**

- Compliment safe work
- Express appreciation for exceptional safe performance
- Request commendation for deserving people
- Emphasize the personal gains of working safely
- Emphasize the job gains of safe methods
- Explain the reason behind a required safety rule
- Encourage employee safety participation

### **Eliminating Deterrents Against Working Safely**

- Identify safe practices that are repeatedly ignored
- Identify the deterrents (such as “takes too much time”)
- Convince the employee to change their behavior

### **Increasing Deterrents Against Working Unsafely**

- Stress the long run certainty of accidents
- Stress severity potential where it is real
- Always correct observed unsafe behavior
- Get other employees to show their disapproval of unsafe practices
- When necessary, show readiness to discipline
- Always explain why an unsafe practice is unsafe
- Tell employees about recent accidents

### **Eliminate The Incentives to Work Unsafely**

- Determine the underlying cause of the employee’s behavior
- Eliminate or nullify the underlying cause

## **Violation Disciplinary Action Policy (cont.)**

### **Setting the Right Example**

There is nothing more devastating to the development of positive safety attitudes than having the Superintendent set the wrong example. For example, a Superintendent on a job site wearing a ball cap while requiring everyone else to wear a hard hat. Employees resent safety rules being interpreted one way for management and another way for them. Some specific do's and don'ts are:

- Always demonstrate compliance with safety rules and regulations.
- Always wear the personal protective equipment your own employees are required to wear.
- Never order workers to work unsafely.
- React to hazards as you want your employees to react.
- Show enthusiasm and ability in carrying out responsibilities in the safety program.
- Never belittle the company safety program.

### **Procedure for Correcting Safety Violations**

All of the above activities create a greater readiness in employees to do what they know they should do. They are preventive measures because when properly followed, they will prevent disciplinary problems. However, corrective measures will need to be initiated when the existence of a problem of safety performance has been recognized. Depending on the type, severity, and circumstances associated with the problem, the following methods of correction can be applied:

- Correction by reinstruction
- Correction by reminding
- Correction by persuasion
- Correction by warning
- Correction by interview
- Correction by penalty

The recommended normal sequence of corrective action should be: 1) reinstruction, 2) persuasion or warning, 3) corrective interview, and 4) penalty. Whether a deviation from the sequence is appropriate depends upon such factors as:

- The seriousness of the safe practice violation
- The reasons for the safe practice violation
- The general safe conduct history of the employee

If reinstruction, persuasion or warning, or the corrective interview do not deter the employee from persistently violating company safety rules, then disciplinary penalties are issued according to the principles that follow.



## Violation Disciplinary Action Policy (cont.)

### **Safety Rule Enforcement**

All rules must be enforced and obeyed by management and workers. The following are disciplinary actions invoked for safety rule violations:

- A non-serious violation should result in a verbal warning to the employee.
- A repetitive non-serious or serious violation will result in a written warning to the employee. This documented warning will include the date and the nature of the safety violation. This notice should also note the preventive measures taken to ensure that the action will not be repeated.

Both the employee and the Superintendent will sign the notice. A copy will be given to the employee and one copy kept in the employee's personnel file.

- A repetitive serious or willful serious violation will result in disciplinary action being taken and could result in termination of employment.

Violation of any of the following items could subject the employee to automatic suspension with the possibility of discharge:

- Willful violation of OSHA regulations or Clancy & Theys Construction Company's Safety Rules
- Intoxication (Coming to the job premises or trying to work while under the influence or in possession of intoxicating liquors or controlled substance.)
- Fighting or provoking a fight
- Horseplay in any form – scuffling, pranks, wrestling, throwing material at others, etc.
- Possession of firearms, explosives or any other items intended to cause harm or death to others.

Superintendents are charged with the responsibility of enforcing the above regulations. They have the backing, support, and assistance of the management of Clancy & Theys Construction Company.

The following principles relate to the use of disciplinary penalties:

- Make penalties a truly last resort measure unless exceptional circumstances prevail.
- Make certain the charges of wrongdoing are wholly correct before issuing a disciplinary penalty.
- Always establish the cause(s) of why the employee(s) behaved in an unsafe manner.
- Look for and take into account extenuating circumstances.
- Take into consideration a person's past performance when deciding on the severity of a penalty.
- Show respect for the dignity of the individual.
- Make the severity of the penalty only what is necessary to deter further infractions.
- Convince the employee there will be an opportunity for a clean start.



## VISITOR / OUTSIDE VENDOR SAFETY PROCEDURES

- Signage should be posted at all site entrances and should state that *"Visitors Must Report to the Office"*. Exceptions may be made to this policy only after review of the project and scope of work.  
*\*Wording May Vary*

- All vendors and visitors should wear a hard hat, eye protection, and work shoes prior to entering a construction area. This includes delivery drivers.

*If visitors do not provide their own hardhat or eye protection, a "Yellow" visitor hard hat and/or standard eye protection may be obtained through the Clancy & Theys Site Office and should be returned after use.*

- All visitors shall be escorted while on site either by a Clancy & Theys employee or a representative of the subcontractor involved.



## **WELDING AND CUTTING PROGRAM**

### **Purpose**

It is the purpose of Clancy & Theys in issuing this plan to further ensure a safe workplace based on following formal, written procedures for welding and cutting. This plan will be reviewed and updated as needed to comply with new OSHA regulations, new, best practices in welding technology and as business practices demand.

### **Policy**

Only trained and authorized persons shall use an Oxy/Fuel Torch set or an Arc Welding System. Any untrained / unauthorized employee found operating one of these systems will be disciplined up to termination of employment.

### **Training**

Clancy & Theys will train select employees on welding and cutting safety practices including, but not limited to:

- Handling and operation of Oxy/Fuel cutting systems
- Arc welding
- Use of Personal Protective Equipment (PPE)
- Fire Prevention while welding and cutting

### **Procedures**

#### **Compressed Gas Cylinders - Handling, Storage and Use**

- Keep valve protection cap in place at all times when a cylinder is not in use.
- When cylinders are hoisted, secure them on a cradle, sling board or pallet.
- Use a cylinder cart to move cylinders from place to place. If a cart is not available you may move the cylinders by tilting and rolling them on their bottom edges. Care in handling is required.
- Secure cylinders in an upright position at all times whether in use or not. If a fuel gas cylinder is found lying on its side, immediately stand the cylinder upright. Do Not use the cylinder for the same amount of time it was lying down. If the time is unknown assume 8 hours.
- When operating a torch setup, keep the cylinders away from welding or cutting slag and sparks as to prevent possible fire or explosion.
- Care will be taken to prevent cylinders from becoming part of an electrical circuit.
- When storing the Oxygen and Fuel cylinders, a distance of at least 20 feet or a noncombustible barrier at least five feet high must separate the fuel gas cylinders from oxygen cylinders. This applies to indoor and outdoor storage.
- The site supervisor will:
  - Designate well-ventilated storage areas for cylinders inside buildings.
  - Take care to keep storage areas out of traffic areas or other situations where they could be knocked over, damaged or be tampered with.
  - Post “NO SMOKING” signs at storage areas.
- Never use the valve protection caps for lifting cylinders.
- Never use damaged or defective cylinders. If a cylinder is found damaged or in need of repair it will immediately be tagged out of service until replaced.
- Mixing of gases is prohibited.
- Taking oxygen, fuel gas or manifolds with these gases into confined spaces is prohibited.

## Welding and Cutting (cont.)

### Gas Welding and Cutting Practices Safe practices

- Only trained authorized persons shall operate an Oxy/Fuel System.
- Open cylinder valve and attach regulator according to industry practice.
  - Oxygen – Open the valve fully
  - Fuel Gas – Open the valve ½ turn.
- Keep all hoses, regulators, cylinders, valve protection caps, couplings, apparatus and torch connections free of grease and oil, especially those involving oxygen.
- Use fuel gas hose and oxygen hose of different colors.
- Inspection of Oxy/Fuel Torch system:
  - Inspect all hose shift
  - All torches
- Only devices designed for the purpose will be used to clean torch tips.
- Use only friction lighters to ignite torches.
- Remove torches and hoses and positive shut-off of gas sources from confined spaces when leaving a confined space project for any substantial period of time.
- Always have proper ventilation and/or respiratory protection. Some metals such as ones that have been galvanized are toxic when heated or cut.
- Never interchange hoses, including use of adapters, between fuel gas and oxygen sources.
- Do not place anything on or near a manifold or cylinder top that may interfere with the prompt shut-off in case of an emergency.
- No taping more than four inches out of every 12 inches in joining fuel gas and oxygen hoses. This prohibits the inspection process of the hoses.
- Never use a defective hose or torch.
- Do not use oxygen for personal cooling, cleaning off surfaces, ventilation or blowing dust from clothing.
- Never carry a butane lighter on your person while operating a torch system.

### *Personal Protective Equipment for Oxy/Fuel Systems*

The following is required while operating an Oxy/Fuel Torch System:

- Proper tinted “Cutting Glasses” (Sunglasses are prohibited)
- Leather shoes
- Other Leather or non-flammable clothing as applicable

## Arc Welding and Cutting

### *Safe practices*

- Only trained and authorized persons shall operate an Arc Welding system.
- Use electrode holders, cable and other apparatus specifically designed for the purpose that they were intended.
- When leaving electrode holders unattended, electrodes are to be removed and holders placed so that accidental electrical contact is not made.
- Turn off the arc welding or cutting machine when it is to be left unattended for a substantial period of time or when it is being moved.
- Immediately tag out and report any defective equipment to the site supervisor.
- Use noncombustible or flameproof screens to protect employees and passersby from arc rays wherever practicable.

## Welding and Cutting (cont.)

- Do not use cables with repairs or splices within 10 feet of the holder that are not equivalent in insulating value to the original cable.
- Do not dip hot electrode holders into water.

### *Personal Protective Equipment for an Arc Welding System*

The following is required while operating an Arc Welding System:

- Welding shield with proper lens in accordance with OSHA Standards.
- Fire resistance clothing
- Leather Shoes
- Other Leather or non-flammable clothing as applicable

## Hollow Metal Structures or Containers

### *Safe practices*

Cutting or welding of sealed or hollow metal containers is prohibited unless the following conditions are met:

- The vessel has been purged of any hazardous substance(s);
- Proper fire protection precautions have been taken;
- Work operations are to take place on the outside of the vessel;
- Shall only be performed by experienced persons trained in this task.

## Fire Prevention

Fire prevention is an important part of any Hot Work operation. A fire extinguisher rated not less than 10#ABC will be readily available anytime Hot Work is taking place.

Each Torch Cart and Arc Welding machine shall be equipped with a fire extinguisher rated not less than a 5#ABC.

Fire extinguishers are to be checked on a monthly basis and annual inspections are to be maintained in accordance with NFPA 10.

Workers who are authorized to extinguish fires will receive training according to OS Steel Erectors – Fire Prevention Program.

A Clancy & Theys supervisor shall assure that all combustible material and flammable liquids are kept out of the area where Hot Work is taking place.

## Fire Watchers

When normal fire prevention measures are not sufficient, based on the site supervisor's assessment, the Company will assign a fire-watcher(s).

i.e. – welding within an exterior wall where hot slag could fall to the floor below.

- Firewatchers will provide additional safeguards against fire during and after operations.
- Clancy & Theys will provide training for firewatchers on the specific fire hazards and equipment available.

## **Welding and Cutting (cont.)**

### **Ventilation**

- The site supervisor will determine the number, location and capacity of ventilation devices if needed.
- Where ventilation is not sufficient to provide clean, respirable air, respirators will be used and specified according to the hazardous substances found. Refer to MSDS Sheets.
- Ventilation will be sufficient to protect passersby as well as the welder.
- When known or unknown toxic materials are present in a job, respirators will be provided that match the hazard for all employees. The hazards include zinc or zinc bearing base or filler metals, lead base metals, cadmium-bearing filler metals, chromium bearing or chromium coated metals, mercury, nitrogen dioxide and beryllium. Due to beryllium's extreme danger, both ventilation and air line respirators will be used.

## Cut-Off Saw Safety Policy



The use of any cut-off machine may be hazardous. Because a cut-off machine is a high-speed cutting tool, special safety precautions must be observed to reduce the risk of personal injury, death and/or fire.

It is important that every operator must read, fully understand and observe the following safety precautions and company policies.

Cut-off saws or similar equipment are intended for use by qualified Clancy & Theys Employees only.

### Owner's Manual

- The manufacturer's Owner/Operator/Safety manual shall be available to the operator and shall remain with the cut-off machine at all times.
- The operator(s) shall read, have read, fully understand and observe the safety precautions and warnings stated in the manufacturer's Owner/Operator/Safety manual.

### Operator

- The operator(s) must be in good physical condition and mental health and not under the influence of any substance which might impair vision, dexterity or judgment.
- Persons shall not operate a cut-off machine if fatigued. If the operator becomes tired during use then he/she should take a break or an alternate operator shall take over. Tiredness may result in a loss of control of the machine.
- Prolonged use of cut-off machines (or other machines) exposing the operator to vibrations may produce whitefinger disease (Raynaud's phenomenon) or carpal tunnel syndrome. In order to reduce the risk of whitefinger disease and carpal tunnel syndrome, please note the following:
  - Use anti-vibration ("AV") systems when available from the manufacturer.
  - Maintain the "AV" system in proper working condition.
  - Wear gloves and keep hands warm.
  - Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressure.
  - Take frequent breaks.
- The cut-off machine is a one-person tool. Do not allow other persons to be near the machine. Start and operate without assistance.

### Personal Protective Equipment & Clothing

- General clothing
  - Sturdy & snug fitting
  - Allow complete freedom of movement
  - Avoid loose fitting, flared, frayed clothing
  - Wear long pants at all times – NO SHORTS
  - Protective Leg Chaps shall be worn during operation.

# Cut-Off Saw Safety Policy

## *Personal Protective Equipment & Clothing – Cont'd*

- Hands
  - Gloves shall be worn during operation
    - Heavy Duty
    - Non slip
    - Anti-vibration (recommended)
- Feet
  - Sturdy boots shall be worn during operation
    - Non slip soles
    - Steel toes (recommended)
- Eyes & Face
  - Eye Protection shall be worn during operation
  - Full face shield shall be worn during operation
    - Eye & face protection shall comply with the ANSI Z87.1 standard.
- Head
  - Hard hat shall be worn during operation
- Hearing
  - Hearing protection shall be worn during operation
    - Shall comply with the OSHA 1926.52 standards.
- Respiratory
  - When the inhalation of dust, mists and fumes cannot be eliminated, the operator should always wear a respirator approved by NIOSH/MSHA for the material being cut to reduce the risk of serious or fatal respiratory illness.

## **The Cut-Off Machine**

- Never modify a cut-off machine in any way.
- Use only attachments supplied by the manufacturer or an approved/authorized attachment.
- Dust may collect on the powerhead. Especially around the carburetor, and may collect gasoline resulting in danger of fire. Clean dust from the powerhead regularly.

## ***Transporting the Cut-Off Machine***

- Always stop the engine before putting a cut-off machine down or carrying it.
- When carrying a cut-off machine grip the front handle and place the muffler at the side away from the body.
- Protect the cutting wheel from hitting the ground or any other objects. Damaged wheels may shatter and cause serious or fatal injury.
- When transporting by vehicle secure properly and with the cutting wheel removed.



# Cut-Off Saw Safety Policy

## *The Cut-Off Machine – Cont'd*

### ***Fueling***

- Fuel in well ventilated areas, outdoors only.
- Do not smoke or bring fire, flame or spark near the fuel.
- Always shut off engine and allow it to cool before refueling.
- Refer to the operator/safety manual for additional information on fueling.

### ***Use***

- Inspect the cut-off machine before each initial use. Never operate a cut-off machine that is damaged, improperly adjusted or not completely and securely assembled.
- Inspect for safety in operation.
- Follow proper startup procedures found in the operator/safety manual.
- Operate only under good visibility and daylight conditions only.
- Do not use a cut-off machine around flammable objects and direct sparks away from the operator, other people or any flammable surroundings.
- **See the sections on “Reactive Forces” in the operator/safety manual for special precautions and warnings.**
- Shims, wedges or other methods shall be used when cutting objects that have the potential to shift or pinch the wheel.

## **Cutting Wheels**

- Before mounting the cutting wheel make sure that the maximum operating wheel speed is above or equal to the spindle speed of the cut-off machine.
- Do not use a wheel that has been dropped.
- Do not cut any material for which the abrasive wheel is not authorized.
- Do not grind on side of the abrasive wheel.
- Do not twist, knock, or drop the machine. This can cause damage to the wheel.
- When wet cutting take precautions to prevent electrocution hazards.

### ***Abrasive Wheels***

- Inspect abrasive wheels frequently and replace immediately if the wheel is cracked or warped.
- Abrasive wheels are heat sensitive. Do not expose abrasive wheels to direct sunlight or other sources of heat.
- Store abrasive wheels in a dry place.
- Never use circular saw, carbide tipped, rescue, woodcutting, or toothed blades of any nature.
- Use for dry cutting only unless specified differently by the manufacturer.

### ***Diamond Abrasive Wheels***

- Inspect a diamond abrasive wheel before using for under-cutting, flatness, core fatigue, segment damage or loss, sign of overheating and possible arbor hole damage.
- Always fit the wheel so that the arrow on the wheel points in the direction of the rotation of the spindle.

## **Cut-Off Saw Safety Policy**

### **Loaning of Cut-Off Saws to Subcontractor's**

It shall not be the policy of Clancy & Theys to loan a cut-off saw to a subcontractor or any other party under any circumstances. However, in an extenuating circumstance where a cut-off saw may be loaned out the following shall apply.

- 1) The subcontractor site supervisor must be present and is the only person to whom the equipment may be released.
- 2) The subcontractor site supervisor must sign a Clancy & Theys "EQUIPMENT AND/OR MATERIAL USE AGREEMENT" form found at the end of this section.
- 3) The operator/safety manual must accompany the saw.
- 4) The operator of the saw must wear the following equipment. No exceptions.
  - Hard Hat
  - Face Shield
  - Safety Glasses
  - Hearing Protection sufficient to meet or exceed the OSHA regulations.
  - Leg Chaps
  - Toe Caps
  - Gloves
  - Respiratory Protection appropriate to conditions.

## Cut-Off Saw Safety Policy

### EQUIPMENT AND/OR MATERIAL USE AGREEMENT

WHEREAS, **Clancy & Theys Construction Company** has furnished for its own use and convenience, tools, equipment and material, in connection with work performed or to be performed at the \_\_\_\_\_ project;

WHEREAS, \_\_\_\_\_ (Contractor) desires to use such tools, equipment and/or said materials, performing certain work at said location;

NOW, THEREFORE, in consideration of the premises and of the undertakings of the contractor hereinafter stated, **Clancy & Theys Construction Company** hereby consents to said use by the subcontractor of such tools, equipment and/or other materials, at the convenience of **Clancy & Theys Construction Company**, subject to all of the following terms and agreements:

- (1) \_\_\_\_\_ (Contractor), agrees to indemnify and hold harmless **Clancy & Theys Construction Company** for loss, damage and expense because of injury to the person or property of the parties hereto and their employees, and to the person or property of any other person or corporation arising out of the existence, maintenance or use of said tools, equipment and/or other materials by the contractor.
- (2) The Contractor further agrees (A) to insure the liability assumed in paragraph (1) above, in a reliable and acceptable insurance company, and (B) to maintain insurance in such an insurance company providing the contractor with Workers' Compensation and Public Liability Insurance on the operations of the contractor at the premises described above and will furnish to **Clancy & Theys Construction Company** certificates to that effect.
- (3) **Clancy & Theys Construction Company** does not guarantee the safety or suitability of any said tools, equipment and/or other materials for the purpose of the contractor.
- (4) *The subcontractor agrees to provide all necessary and/or required safety and operational training before initial use.*

IN WITNESS WHEREOF, **Clancy & Theys Construction Company** and Subcontractor have executed this instrument this \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_  
Subcontractor (Contractor)

\_\_\_\_\_  
Clancy & Theys Construction Company

By \_\_\_\_\_  
(Title)

By \_\_\_\_\_  
(Title)

Specific tool(s), Equipment, or material(s) to be used by said Subcontractor:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_