CHAPTER 2: INJURY ILLNESS PREVENTION PROGRAM
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** INJURY AND ILLNESS PREVENTION PROGRAM **

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SECTION I
STATEMENT OF SAFETY AND HEALTH POLICY

The following is the safety and health policy of J.T. Thorpe & Son, Inc.:

I. SAFETY AND HEALTH PRECEDENCE:

The individual and collective safety and health of all J.T. Thorpe & Son, Inc. employees is very important. The prevention of occupational (work-related) injury and illness shall be given precedence over operating productivity.

II. SAFETY PRACTICES:

Personnel shall practice safety at all times. Only approved safety methods and equipment will be used. Use of any machinery, tool, material or equipment which is not in compliance with any applicable requirement is prohibited.

III. COOPERATION

It is the intent of J.T. Thorpe & Son, Inc. to sustain standards that guard against injuries and illness while on the job. To be successful, the proper attitude toward the prevention of injuries and illness by all employees is required. Success in all safety and health matters also depends upon cooperation between J.T. Thorpe & Son, Inc. and its supervisors, and between the supervisors and all employees. Only with a cooperative attitude and effort can a good safety record in the best interest of all be established and preserved.

IV. GOAL

Our safety and health program is designed to reduce the number of injuries and illness to a minimum. Our goal is zero accidents, injuries and illness.

V. OUR COMPANY SAFETY STANDARDS INCLUDE:

A. Full compliance with State and Federal OSHA regulations.

B. Full compliance and cooperation of all employees with all safety and health rules as a condition of employment.

C. Conducting regular safety meetings to provide education and training on safety and health matters.

D. Conducting safety and health inspections to identify and eliminate unsafe working conditions and/or practices.

Thorough investigation of every accident to detect the causes, correct the problem, and prevent future occurrences.

VI. ADDITIONAL PROVISIONS:

Recognizing that the responsibility for safety and health must be shared by all, we further establish the following:
A. J.T. Thorpe & Son, Inc. is responsible for enacting, maintaining, and improving safety and health standards. We expect full cooperation toward the prevention of occupational accidents, injuries, and/or illness.

B. Supervisors are responsible for developing proper attitudes toward safety and health in themselves and in those they supervise, and for insuring that all operations are performed with regard for the safety and health of all personnel involved. This includes encouraging employees to report unsafe conditions or practices without any fear of retribution.

C. Supervisors are responsible for overseeing the proper training of all employees for safe job performance.

D. Supervisors are responsible for proper and thorough documentation of all matters relating to safety and health.

Employees are responsible for sincere cooperation with all aspects of safety and health, including compliance with all rules and regulations for practicing safety while performing their duties.

VII. SAFETY PRACTICE OPERATIONS CODE:

A. All employees shall follow safe practices, use personal protective equipment as required, render every possible aid to safe operations, and report all unsafe conditions or practices. All J.T. Thorpe & Son, Inc. safety programs are available for review upon request.

B. Work shall be planned and supervised thoroughly to prevent injuries.

C. All employees shall be given frequent accident prevention instructions.

D. Supervisors shall insist on employees observing and obeying every rule, regulation and order, as necessary for the safe conduct of work.

E. All unsafe, unhealthy, or hazardous conditions or places shall be immediately placed off limits, out of order, out of bounds, etc. and promptly removed or corrected.

F. No one shall knowingly be allowed or required to work with impaired ability or alertness caused by fatigue, illness, or other factors, such that the employee or others may be exposed to accidents or injuries.

G. No one will be allowed on the job while under the influence of intoxicating liquor or drugs.

H. Horse play, scuffling, and other acts that tend to have an adverse influence on the safety or well-being of employees are prohibited.

I. Driving within the limits of a customer's property in an unsafe, careless, or reckless manner is prohibited.

J. Employees shall inspect all equipment to ensure that guards and other protective devices are properly placed and adjusted before operating, and shall report any deficiencies promptly.

K. Workers shall not handle or tamper with any tools, equipment, machinery, or facilities beyond the scope of their duties, unless they are thoroughly qualified and have received instructions from their supervisor.

L. All injuries shall be reported promptly so that arrangements can be made for medical or first aid treatment. This includes any pain from repetitive tasks or jobs that lasts until the beginning of the next work shift.
M. When lifting heavy objects, use the large leg muscles instead of the smaller back muscles.

N. Protect the eyes at all times with the proper use of safety glasses, goggles, or hoods.

O. Know where you are going and how you are going to get there. Look before you move.

P. Watch out for others. They may not be aware of what you are doing or where you are going.

Q. Wash thoroughly after handling injurious or hazardous substances, and follow all special instructions from authorized sources (labels and SDS’s). Hands should be thoroughly cleaned before eating.

R. Loose or frayed clothing, dangling ties, finger rings, etc. shall not be worn near moving machinery or other sources of entanglement.

S. Apparatus, tools, equipment, and machinery shall not be repaired or adjusted while in operation, nor should oiling of moving parts be attempted, except on equipment designed and fitted with safeguards to protect the person performing the work.

T. Use common sense: If you don't know how, don't do it! Get help and do it right.

U. Make a point of displaying your safety attitude to our customer’s security and safety people. Always comply with their safety rules and show willingness to cooperate with them at all times. This sets a good example and reflects well upon us.

Mark C. Stutzman
CEO
SECTION II
COMPLIANCE WITH SB-198

J.T. Thorpe & Son, Inc. has been in compliance with SB-198 since before the July 1, 1991 deadline. However, we would like to simplify the task of locating each requirement of the new regulations in our safety manual.

Section 3203.

(1) Identifying the responsible members. See pages 6-8.

(2) Ensuring that employees comply with safe and healthy work practices. See pages 26-34.

(3) System of communication. See pages 9-38.

(4) Procedures for identifying and evaluating work place hazards. See pages 22-23 (Job Site Surveys), pages 24-25 (PRE-JOB HAZARD ANALYSIS) pages 36-79 (SDS), page 39 (EMPLOYEE HAZARD CHECKLIST).

(5) Procedure to investigate occupational injury or occupational illness. See page 19.

(6) Procedures for correcting unsafe or unhealthy conditions. See pages 22-34.

(7) Training and instruction. J.T. Thorpe & Son, Inc. provides the following training annually:

   Hearing Protection, Hazardous Communication Training, Hazardous Waste Generator Training, Scaffolding, Respirator Training.

   Documentation of this training is located in the Safety Coordinator's office and will have the name of the employee, the name of the trainer, date of training, and what information was covered.

   Along with tailgate weekly safety meetings, there is an annual J.T. Thorpe & Son, Inc. safety meeting.

(8) Documentation of our training and communication is located in the Safety Coordinator's office. All job related safety records (i.e., safety inspections, safety meetings, injury reports, etc.) are located in the particular job file. Records will be maintained for a minimum of one year.

(9) All field crews (project managers, foremen, brick masons, laborers and safety persons) will wear proper safety PPE that is provided by J.T. Thorpe & Son, Inc. The PPE used depends upon the job to be performed. Employees will be trained on the use, limitations, service life, and proper maintenance of the PPE during the J.T. Thorpe & Son, Inc. initial orientation process (section 3) and will review PPE to be used on a daily basis, throughout the J.T. Thorpe & Son, Inc. JSA program. If the project changes, a new JSA will be performed and PPE requirements will be discussed. Project management will observe workers to ensure they demonstrate proper use of the PPE, proper maintenance, proper sanitary conditions and that the PPE is kept in reliable condition. If necessary, there will be additional training if the worker does not demonstrate proper skill to use the PPE. The training tests will indicate the name of the trainer, date of training, name of trainee, and material covered.

(10) J.T. THORPE & SON, INC. PROVIDES ALL SAFETY EQUIPMENT EXCEPT STEEL TOE SHOES. Project management will check shoes to ensure they are in proper condition.
(11) Hazard assessment of standard job operations has been performed by the Corporate Director of Risk Management and Safety. This assessment has included site inspections, industrial hygiene testing results, and review of SDS's for materials. The basic requirements for safety equipment on J.T. Thorpe & Son, Inc., job sites consist of ANSI-approved safety glasses, hard hat, and steel toe boots.

(12) During tear out operations full-face respirators with HEPA filters, Tyvex coveralls and leather gloves are to be used. If the site requires flame retardant coveralls will be worn.

(13) Mix stations in open are require all PPE indicated in 11 above with the exception of the use of half-face respirators with HEPA filters.

(14) Gunite operations require the use of above PPE with the use of half-face respirators.

(15) Enclosed mix stations require the employee to wear standard PPE listed in 11 above, Tyvex coveralls, half-face respirators with HEPA filters for the pot operator and full face respirators with HEPA filters for mixer operators.

(16) If workers are exposed to a fall in excess of 6 feet, a proper harness with lanyard will be provided by J.T. Thorpe & Son, Inc. Employee wills be trained (see section 3 for training) on how to properly put on and use the harness.

(17) All employees will receive proper respirator physicals and fit tests.

(18) Any defective or damaged PPE must not be used. Damaged PPE should be turned into project management for replacement and disposal.
SECTION III
SAFETY PROGRAM

ORGANIZATIONAL CHART AND RESPONSIBILITIES

President

Safety Manager

Project Manager

Foreman

Office Manager

Field Personnel

Clerical Staff

1. **President**
   a) Has the responsibility, authority, and overall accountability for overall company operation including safety and the injury and illness prevention program (IIPP).

2. **Safety Manager**
   a) Review all accident report forms and accident investigation reports.
   b) Oversee documentation of Safety Program.
   c) Coordinate with OSHA and MSHA.
   d) Coordinate with Workmen's Compensation insurance carrier.
   e) Monitor insurance claims.
   f) Conduct biannual safety meetings.
   g) Safety Training Includes:
      * SDS Training
      * Scaffolding Safety
      * Hazardous Waste Generation
      * Hearing Conservation
      * Respirator Training

3. **PROJECT ENGINEER/MANAGER**
   a) Confirm that proper and safe equipment and personnel protective equipment is ordered for each job site.
   b) Confirm that Safety Data Sheets are supplied for each job as required.
   c) Confirm that safety meeting report and incident report forms are sent to the Safety Coordinator. Write accident reports and send them in to the Safety Coordinator.
   d) Conduct job inspections with the Foreman to ensure a safe operation. *(See attached inspection form.)*
   e) Review Hazardous Communication training.
   f) Promote a positive safety attitude by example at the job site.
   g) Conduct accident investigations as required.

4. **FOREMAN**
   a) Check equipment sent to the job to ensure its safety.
   b) Be familiar with Safety Data Sheets required for your job.
c) Conduct safety meetings according to the attached safety meeting policy. Turn in appropriate documentation.
d) Orient new employees with the J.T. Thorpe & Son, Inc. "Code of Safe Practice." (See Section IX.)
e) Complete incident reports promptly and return them to the Project Engineer.
f) Conduct periodic job inspections to ensure a safe operation.
g) If an unsafe condition exists, all work in that area must cease until the condition is safe.
h) Promote a positive safety attitude by example at the job site.

5. OFFICE MANAGER

a) Ensure the office complies with the safety program.
b) Hazardous communication-SDS coordination.
c) Review incident reports and write accident reports.
d) Conduct accident investigations as required.
e) Conduct safety inspections.

6. ADMINISTRATIVE ASSISTANT

a) Conduct quarterly safety meetings.
b) Conduct quarterly safety inspections with Controller.
J. T. THORPE & SON, INC.
RESPONSIBLE EMPLOYEES

NORTHERN CALIFORNIA
(CORPORATE HEADQUARTERS)

CEO - Mark Stutzman

VICE PRESIDENT – WESTERN OPERATIONS – Rich Giaramita

OPERATIONS MANAGER - RICHMOND OPERATIONS – Dave Watts

OPERATIONS MANAGER – FABRICATION GROUP – Khalid Jiha

DIRECTOR OF RISK MANAGEMENT & SAFETY - Doyle Tyree

SAFETY & MANPOWER MANAGER - Neal Garcia

PROJECT MANAGERS/ENGINEERS

Demetry Kondrasheff
Steve Diemert
Rick Whipple
Jim Detwiler
Israr Hussain
Christian Rodriguez

SOUTHERN CALIFORNIA

REGIONAL MANAGER - L.A. OPERATIONS - Gregg S. Dyakon

OPERATIONS MANAGER - L.A. OPERATIONS – Tony Swager

SAFETY & MANPOWER MANAGER - John W. Towning

PROJECT MANAGERS/ENGINEERS

James Butler
Eric Downing
Paul Garcia
Kevin Butler
Joseph Kennedy
David Guinosso
Reed Johnson

ARIZONA

REGIONAL MANAGER - TUCSON OPERATIONS – Mike Harris

SAFETY & MANPOWER MANAGER - Dave Decker

PROJECT MANAGERS/ENGINEERS

Brandon Martinez
Denny Tidaback
T.J. Riggins

**UTAH**

PRESIDENT & CHIEF OPERATIONS OFFICER – Bryan Young

REGIONAL MANAGER - SALT LAKE CITY OPERATIONS – Ryan Davis

MANPOWER MANAGER – Buddy Byrd

SAFETY MANAGER – Kevin Garbe

QUALITY CONTROL MANAGER & CHIEF ENGINEER – Jacob Dupree

PROJECT MANAGERS/ENGINEERS

Sean Anderson
Adam Call
Jim Larkin
Jay Neil
Rich Venturella

**LOUISIANA**

OPERATIONS MANAGER – BATON ROUGE OPERATIONS – Brad Gregory

SAFETY & MANPOWER MANAGER – Randal Strange

PROJECT MANAGERS/ENGINEERS

Gary Balser

**KENTUCKY**

REGIONAL MANAGER - MAYSVILLE OPERATIONS - Tom Diemert

SAFETY MANAGER - Ryan Hieneman

MANPOWER MANAGER – Chris Craner

PROJECT MANAGERS/ENGINEERS

Carl Thomas
David Snow
Eugene Payne
Ryan Lawson

**MISSOURI**

REGIONAL MANAGER – MID-WEST – Joe Rigby

OPERATIONS MANAGER – ST. LOUIS – Brent Mitcham

REGIONAL SAFETY MANAGER – MID-WEST – Tony Foster
REGIONAL MANPOWER MANAGER – MID-WEST – Jim Lillis

PROJECT MANAGERS/ENGINEERS

  Rick Williams
  Michael Schwartz
  Eric Greenwalt

CHICAGO

REGIONAL MANAGER – MID-WEST – Joe Rigby

OPERATIONS MANAGER – CHICAGO – Bob Morack

REGIONAL SAFETY MANAGER – MID-WEST – Tony Foster

REGIONAL MANPOWER MANAGER – MID-WEST – Jim Lillis

PROJECT MANAGERS/ENGINEERS

  Daniel Piet
  Jason Adams
  John Konrad
  Josh Chichester

PITTSBURGH

VICE PRESIDENT – EASTERN OPERATIONS – Kevin Howard

OPERATIONS MANAGER – PITTSBURGH – Chris Rich

OPERATIONS MANAGER – LARGE PROJECTS GROUP – Derek Stallard

SAFETY & MANPOWER MANAGER – Daniel Donkin

PROJECT MANAGERS/ENGINEERS

  Matthew Sam
  Kevin Butler
  Kenneth Cooper
  Pete Pignatiello
  Anthony Rodriguez
  Matthew Stetins
SECTION IV
SAFETY MEETINGS

All employees shall be kept constantly aware of safe work methods. Safety meetings shall be well planned and held on a regular schedule, as follows:

FIELD, WAREHOUSE, & YARD CREWS: A five- (5) to ten- (10) minute safety (tailgate) meeting shall be held each week for every job.

Meeting Leaders: The job Foreman is responsible for holding safety meetings. Subjects should be chosen and presented by the leader for each matter.

OFFICE PERSONNEL: A thirty-minute safety meeting shall be held quarterly.

Subject Matter: Safety Meetings are not visiting sessions. Pick a "Safety Subject" before the meeting. Some examples are: Hard Hat Wear, Area Clean Up, etc.—any general topic that is appropriate for the job being done.

Safety Meeting Record: All Safety Meetings shall be recorded as follows:

A "Safety Meeting Report" (See sample on page 17) shall be completed for every Safety Meeting held. The report shall be sent along with the time sheets to the office, immediately following the meeting, to be placed in J.T. Thorpe & Son, Inc.’s safety files.

SAFETY MEETINGS ARE A REQUIREMENT!
THINK SAFETY!
CONDUCT AND/OR ATTEND THEM AS THOUGH YOUR LIFE DEPENDS ON THEM!!

GUIDELINES FOR CONDUCTING SAFETY MEETINGS

The tailgate safety meeting may be used in both large and small operations. In small operations, it may be possible to have one meeting for all employees. In large operations, employees may be divided into groups by job or Foreman.

Here are a few points to remember to make your "tailgate" safety meetings more effective!

PRE-PLANNING - BE WELL PREPARED

Read and understand the weekly topic before the meeting. Select those problems and solutions that best fit your needs. Be ready to discuss them and answer questions. Stimulate discussion with questions.

TIME

Start on time and end on time.

Limit each meeting to 15 minutes or less. Schedule separate, longer training meetings, if needed, for special topics or new jobs.

Hold the meeting at the beginning of the shift or right after lunch, when everyone is alert.

Hold a meeting at least once a week. Regular meetings indicate safety is a regular and valuable part of the job, and that management cares about its employees.
PLACE

Hold the meeting at the job site—preferably where the employees can sit and be comfortable.

Pick a clear, quiet location.

Pick a spot where visuals like posters or pictures can be hung (even the side of a truck will do for this).

DELIVERY

You can open the meeting by stating the subject and describing the hazard or problem, but try to get the group to develop the discussion and sum up the solution. Use positive approaches and conclusions; never ridicule.

Smile, and be friendly—it catches on. Talk to the crew without talking down to them.

Use visual aids. Eighty percent of what we learn is by sight. Good visuals may be posters, photos, or a piece of equipment.

Keep your voice clear, pleasing, and well-pitched. Make sure everyone can hear and understand you.

HOW TO HANDLE “QUESTIONS AND ANSWERS”

If a wrong answer is given, encourage (ridicule would kill participation).

If the answer is true but not what you are looking for, say, “Yes, but..” then redirect your question.

If the answer is right, say, “Right on.” Give credit. You have made your point!

Be careful: Prevent long-winded answers so others get a chance to talk.

If you are asked a question you cannot answer, don’t bluff, be honest and helpful. Say, “I’m not sure, but I’ll get you the answer.”

COMPLETION

• Record all suggestions.
• Correct reported hazards.
• Complete a Safety Meeting Report Form for your records.

As a safety supervisor, you set the example for your employees. If they see you violating rules, they will, too.

SAFETY EDUCATION REDUCES ACCIDENTS
AND BENEFITS YOU AND YOUR COMPANY

SAFETY MEETING TOPICS

Your group’s work activity should be the source of most or all of your topics.

Suggestions:

1. Review unsafe acts or procedures observed among your crew. However, do not mention names or blame anyone at a meeting. This is not the time or place for it, and it might stifle discussion.
2. Review recent injuries or accidents from your operations or from outside sources like neighboring plants, trade journals, newspapers, or other jobs.

3. Discuss the safe operation of new equipment.

4. Review and praise a good safe job recently completed by Company employees.

Review an unsafe condition that was not promptly corrected (such as an obstructed walkway) and point out the injury that could have resulted.

Discuss only one point or subject and don't choose too broad a subject. For example: “Hand tool safety” is too broad to cover in a short meeting. However, defective cords, or putting away tools correctly, or cold chisel use may be appropriate topics.

**TAILGATE GATE TOPICS**

**EYE PROTECTION**

**Introduction:**

Eyes are important to us, so take care of them. Eye hazards come in many forms, but employees can be safeguarded by wearing the proper eye protection.

Discuss the hazards likely to be encountered at work, and the types of protection. Be sure that the proper protection is readily available and used.

If a foreign body enters an employee’s eye, be sure medical treatment is obtained to remove it and prevent further injury.

<table>
<thead>
<tr>
<th>PROBLEMS</th>
<th>SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flying chips from sawing, drilling, etc.</td>
<td>Goggles or safety glasses with face shields</td>
</tr>
<tr>
<td>Particles from drilling concrete</td>
<td>Goggles or safety glasses with face shields</td>
</tr>
<tr>
<td>Splashed chemicals (gasoline, solvents)</td>
<td>Goggles, face shields</td>
</tr>
<tr>
<td>Flash burns from arc welding</td>
<td>Welding goggles</td>
</tr>
<tr>
<td>Acetylene cutting or welding</td>
<td>Welding goggles</td>
</tr>
<tr>
<td>Particles from grinding</td>
<td>Goggles, safety glasses with face shields</td>
</tr>
<tr>
<td>Flying dust or chips (especially on windy days)</td>
<td>Goggles, safety glasses, face shields</td>
</tr>
<tr>
<td>Rubbing eyes</td>
<td>Don't rub them</td>
</tr>
</tbody>
</table>

**QUESTIONS FOR DISCUSSION**

1. How much time can a minor eye injury cost? A major one?
2. Why are plastic glasses usually insufficient and costly?
3. How can the problems of uncomfortable glasses be reduced?
4. What types of operations need eye protection?
5. What types of eye protection are available?
6. What jobs or situations require eye protection? What type of protection?

**HOUSEKEEPING**

**Introduction:**

Housekeeping is a major problem throughout plants and work areas. It affects accident prevention, morale, and the effective use of space, time, material and effort. It reflects the efficiency of work being done. Steps taken to achieve and maintain good housekeeping often improve productivity.

**PROBLEMS**

- Congested aisles or passageways
- Oily or wet floors
- Cluttered work areas
- Temporary or repair operations
- Improper storage
- Disorderly yard/parking lot
- Racks or holders not provided
- Fire prevention
- Inadequate cleaning
- Scrap
- Management
- Faulty maintenance

**SOLUTIONS**

- Provide better storage
- Provide better waste facilities
- Plan flow of material
- Reduce rehandling
- Reduce breakage
- Reduce spillage
- Maintenance program for equivalent
- Maintenance program for piping
- Individual routine clean-up
- Planning
- Efficient arrangement
- Design for convenience

**QUESTIONS FOR DISCUSSION**

1. What are three ways that good housekeeping benefits us?
2. What is your role in housekeeping?
3. How can poor housekeeping lead to accidents? Give examples.
4. What are the benefits of eliminating hazards at the source? Discuss.
5. Why is housekeeping a part of efficient production

**RESPIRATORY PROTECTION**

**Introduction:**
The industrial Safety Coordinator should become familiar with the particular hazards of a given type of respiratory equipment and not allow its use against hazards it is not designed for. Some workers consider respiratory equipment a nuisance, not realizing that failure to wear it may endanger their lives. The attitude of these people can be changed if someone explains why the equipment is necessary, show how to fit it in position, and explain its operation.

### PROBLEMS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust and small flying particles</td>
<td>Poor maintenance</td>
</tr>
<tr>
<td>Gases</td>
<td>Poor selection</td>
</tr>
<tr>
<td>Fumes</td>
<td>Improper care</td>
</tr>
<tr>
<td>Smoke</td>
<td>Storage</td>
</tr>
<tr>
<td>Lack of availability</td>
<td>Punch holes in filters</td>
</tr>
<tr>
<td>Lack of use</td>
<td>Training</td>
</tr>
<tr>
<td>Physically fit</td>
<td></td>
</tr>
</tbody>
</table>

### SOLUTIONS

<table>
<thead>
<tr>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know substance (environment)</td>
</tr>
<tr>
<td>Know significant properties and effects</td>
</tr>
<tr>
<td>Determine significant job factors</td>
</tr>
<tr>
<td>Capabilities of users</td>
</tr>
<tr>
<td>Facilities maintenance</td>
</tr>
<tr>
<td>Correct respirator for job</td>
</tr>
</tbody>
</table>

### QUESTIONS FOR DISCUSSION

1. Why are respirators often not worn when needed?
2. Why should respirators be inspected regularly?
3. Why is it necessary to instruct workers on respirator usage?

### SAFETY IN CONFINED SPACES

**Introduction:**

A "confined space" is defined as an area large enough and so configured that an employee can physically enter and perform assigned work. A confined space has limited or restricted means for entry or exit, and is not designed for continuous employee occupancy. Confined spaces are often subject to an oxygen-deficient atmosphere or an accumulation of toxic or flammable gases or vapors. There is also the potential for engulfment hazards.

Among the more dangerous industrial operations is entering confined spaces to perform emergency or non-routine work. Every year confined spaces become death traps for workers who disregard instructions and fail to follow basic safety precautions before entering these hazardous work areas.
PROBLEMS

Oxygen deficiency
Inadequate instructions
Flammable gases
Improper instructions
Toxic gases

SOLUTIONS

Know what is in the space
Purge the space
Know what was in the space
Retest the atmosphere
Know precautions
Close lines, chutes, pipes, etc.
Test the atmosphere
Lock out liner, chutes, pipes, etc.
Avoid ignition sources
Inform employees of hazard
Provide sufficient ventilation
Provide respirators
Avoid use of toxic substances
Have a backup worker

QUESTIONS FOR DISCUSSION

1. What are the hazards of confined space?
2. What are some examples of confined spaces?
3. How would you alleviate the hazardous conditions of confined spaces?
SAFETY MEETING

COMPANY NAME
J. T. THORPE & SON, INC.

JOB LOCATION

ENGINEER

JOB FOREMAN

TRAINER

TYPE MEETING

DATE

TIME

Supervisor ________________ Tailgate ______________________

TOPIC DISCUSSED:

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

FINDINGS FROM LAST SAFETY AUDIT:

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

ACTION ITEMS:

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

ACCIDENTS (REVIEW CAUSE AND PREVENTIVE MEASURES):

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

PERSONNEL IN ATTENDANCE:

1. ____________________________  5. ____________________________
2. ____________________________  6. ____________________________
3. ____________________________  7. ____________________________
4. ____________________________  8. ____________________________

33

Revised 5/15
SECTION V
ACCIDENT PROCEDURES FOR JOB SITE FOREMAN

WHAT TO DO FOR MINOR ACCIDENTS - FIRST AID CASES

Once an injury is found minor and requiring only first aid or minimal attention, follow these steps:

1. Use the onsite first aid kit for treatment.
2. Have the injured employee report to the customer’s first aid facility if additional treatment is required.
3. If additional treatment is required and the customer does not have a first aid facility, refer the injured employee to the nearest clinic or hospital. Provide the employee with transportation if there is any doubt about driving ability due to the injury. Project Management / Safety is to accompany the worker.
4. Complete an incident report (see page 19) and submit it to the project manager. If required by contract, report the incident to customer.

SERIOUS ACCIDENTS

Once an injury is found serious, follow these steps:

1. Monitor the injured employee’s condition to provide complete information to the responding emergency service.
2. Contact the proper emergency service. Use the customer’s emergency medical facility if available. Otherwise, call the nearest paramedic, ambulance, or hospital, or dial 911.
3. Be prepared to briefly describe the nature of the injury, location of the injured employee, and general circumstances of the accident. This will help the emergency service in its response.
4. Keep the injured employee as comfortable as possible while awaiting emergency service. Avoid unnecessarily moving the injured person in the case of a fall or severe bodily trauma.
5. Incidents reporting requirement for OSHA vary from state to state. In some instances OSHA must be contacted within 8 hours. In other instances OSHA does not need to be contacted. Report all serious incidents to your local Manpower Safety Manager so that OSHA will be contacted within the proper time frame.
6. Contact your project manager as soon as you are informed of an incident. Most owner / clients also want to be advised of any injury or incident. The timing necessary for this reporting can vary. This information will be contained in the project work order developed by the project manager for the job. Insure you understand this requirement before starting work. The reporting requirements from our owner clients can vary from immediate reporting, within the shift, or within 24 hours of incident. The types of reports and information required will also vary. Insure you are aware of this information the first day of the project.
7. Notify the project engineer if on site. Otherwise, notify the J.T. Thorpe & Son, Inc. office and Safety Coordinator of the accident. If required by contract, report the incident to the customer.
8. Complete an incident report (page 22) and submit it to the project engineer within 24 hours.
9. The final written incident report should be on the attached report format and include narrative statement concerning the events including an introduction, methodology, summary of the incident, who did the investigation, narrative of the event, findings and recommendations. Photographs, witness statements, drawings, etc., if available should be included.
10. Recognize that you may need equipment such as the following items to do you incident investigation;

   Writing equipment such as pens/paper
   Measurement equipment such as tape measures and rulers
Cameras
Small tools
Audio recorder
Proper PPE
Marking devices such as flags
Equipment manuals

Make sure they are available prior to starting the project.

Lessons learned from the incident investigation will be sent into the corporate office, reviewed and then communicated to the various branches to prevent recurrence. Recommended changes to processes need to be addressed by the branches.

INCIDENTS INVOLVING SCAFFOLDS, FALL PROTECTION, OR FALLS:

All accidents or near misses involving scaffolds, fall protection, or falls from heights will be investigated by the Regional Manpower/Safety Manager or the Director of Risk Management and Safety. Findings will be reviewed and related to J.T. Thorpe & Son, Inc. safety procedures. The findings of the investigation, along with changes to the corporate safety program, will be reported to all J.T. Thorpe & Son, Inc. offices. All field crews will be trained on these findings. If necessary, the corporate safety program will be updated.
SECTION VI
PROCEDURE FOR ACCIDENT INVESTIGATIONS
PERFORMED BY THE PROJECT ENGINEER/MANAGER OR SAFETY MANAGER

All incidents must be investigated.

1. Interview injured employee.
2. Inspect job site.
3. Interview job Foreman.
4. Interview witnesses.
5. Fill out first report of injury/illness.
6. Review job site inspection if performed before the accident.
7. Document all findings and report to Safety Coordinator.

ACCIDENT REPORTS
BY PROJECT ENGINEER

Accident reports (see page 19) must be filled out and signed by the Project Manager. It is important they are completed and returned to the Safety Manager within 36 hours. If too much time elapses, the insurance carrier will not honor the claim and the employee will be held responsible for the bills. When complete, send the report to the attention of the Safety Coordinator at the office. See attached form regarding which parts you must complete.

Call Doyle Tyree at (510) 233-2500 Ext. 115 or (510) 719-1086 prior to reporting an accident.

Our Workmen's Compensation carrier is the XL Specialty Insurance Company. Their claims reporting number is as follows:

FOR ALL LOCATIONS
XL Specialty Insurance Company
1-877-495-7864

OSHA Recordkeeping Requirements

J.T. Thorpe & Son, Inc is required to keep records of fatalities, injuries, and illnesses must record each fatality, injury and illness that:

(a) Are work-related
(b) Is a new case
(c) Meets one or more of the general OSHA recording criteria.

Each recordable injury or illness must be entered on an OSHA 300 Log and 301 Incident Report, or other equivalent form, within seven (7) calendar days of receiving information that a recordable injury or illness has occurred.

The J.T. Thorpe & Son, Inc Director of Risk Management & Safety will annually certify that the OSHA 300 logs have been examined and that it is believed, based on their knowledge of the process by which the information was recorded, that the annual summary is correct and complete. The annual summary must be posted no later than February 1 of the year following the year covered by the records and the posting kept in place until April 30. This record will be posted at each office on the proper employee bulletin board.

The OSHA 300 Log, the annual summary, and the OSHA 301 Incident Report forms will be retained for five (5) years following the end of the calendar year that these records cover.
ACCIDENT REPORT FORM

XL Specialty Insurance Company

WORKERS COMPENSATION REPORTING FORM

Call XL Specialty Insurance at 1-877-495-7864 for CLAIM REPORTING, with the following information, 24 Hours a day, 7 days a week.

PLEASE PRINT CLEARLY

Company Name: ___________________________________________ Date of Accident __/__/____

State of Employment: __________________________ Store, Unit, or Site Number: ______________________

A. EMPLOYER INFORMATION (exact location where the employee works)

Division/Subsidiary: __________________________________________

Address: __________________________________________ City, State, and Zip Code: __________________________

Business Phone Number & Extension (______) _______ - _______ Ext: ______

Nature of Business: __________________________________________

CONFIRMATION REDIRECT – PLEASE SEND CONF. TO:

Name: __________________________________________ Address: __________________________________________

City, State and Zip Code: __________________________________________

B. EMPLOYEE INFORMATION

Name: __________________________________________

Address: __________________________________________

City, State, and Zip Code: __________________________________________

Residence Phone (______) _______ - _______ Extension: ______

Business Phone & Extension (______) _______ - _______ Extension: ______

Birth date: ______ or age ______ Social Security #: __________________

Sex (Check one): [ ] Male [ ] Female Number of Dependents: ______

Marital Status (Check one):

[ ] Married [ ] Single [ ] Divorced [ ] Widowed [ ] Unknown

Occupation: __________________________________________ Department: __________________

Length of time employed: Years ______ Months: _______ or Date of Hire: ______

Average weekly wage: __________ Is Employee (Check one): [ ] Hourly [ ] Salaried

Was work time lost (Check one): [ ] Yes [ ] No [ ] Undetermined

Last date worked: __________________ State of Disability: ______ Date returned to work: __________________

C. ACCIDENT INFORMATION

Time of accident: ______ am/pm Date Employer was Notified: __/__/____

Was accident at Employer’s Premises: [ ] Yes [ ] No

If No, give address: __________________________________________

City, State, Zip Code: __________________________ County: __________________

Is this a Questionable Case: [ ] Yes [ ] No

Is this a Fatality Case: [ ] Yes [ ] No

If yes, Fatality Date: __________________
Description of accident:___________________________________________________________

Describe injury or illness:__________________________________________________________

Surgery required as a result of accident (Check one):  □ Surgery  □ No Surgery  □ Unknown

Was Injured removed via ambulance? (Check one):      □ Yes      □ No      □ Unknown

Body part injured (indicate left or right if appropriate):________________________________

What was the injured employee doing?________________________________________________

What was the direct cause of injury (machine, tool, object or substance)?

D. PHYSICIAN/HOSPITAL INFORMATION

Name:___________________________________________________________________________

Address:_________________________________________________________________________

City, State, and Zip Code:_________________________________________________________________

Business Phone Number & Extension: (_______)____ - _________Extension:_________

E. WITNESS INFORMATION

Name:___________________________________________________________________________

Address:_________________________________________________________________________

City, State, and Zip Code:_________________________________________________________________

Business Phone Number & Extension: (_______)____ - _________Extension:_________

F. GENERAL LOSS INFORMATION (Please print clearly)

Name & title of person reporting accident:_______________________________________________

Location Code:______________________________________________________________________
SECTION VII
JOB SITE SAFETY SURVEY PROCEDURE

1. Engineer/Project Manager or Safety Coordinator and the job Foreman will perform a minimum of one survey, once during each job. If the job will last longer than a week, one (1) safety survey will be performed for each week on the job; safety surveys should be documented.

2. The following form should be filled out and all corrective actions taken and initialed by the Engineer or Safety Coordinator.

3. The Survey Form (made in quadruplicate) shall be distributed in the office per the listings at the base of the page.

4. Performing weekly safety surveys is not only good safety policy, but meets the number of job site safety surveys required by both OSHA and MSHA.

5. Observations need to be made for the worker to insure the unsatisfactory/unsafe performance of job assignments is corrected. If workers are found not performing up to safety standards, retraining and testing of workers is required. Workers are to be stopped and retraining is to be done immediately when the unsafe work activity involves critical issues such as unsafe behavior relating to severity type of exposure such as working around railroads improperly or not following proper safety procedures when working on scaffold. Records of the training are to be kept including retesting of the worker. The safety issues identified in job surveys that are not critical in nature but that need attention will be addressed and retrained at the next day's safety meeting.
JOB SITE SAFETY SURVEY

JOB LOCATION: _______________________________ JOB NO: ______________________
NAME OF JOB: ______________________________ DATE: ______________________

1. Proper Safety Equipment:
   _____ BOOTS/GLOVES   _____ EYE PROTECTION
   _____ HARD HATS   _____ RESPIRATORS
   _____ EAR PROTECTION   _____ SAFETY HARNESS
   _____ PROTECTIVE CLOTHING   _____ FIRST AID KIT

2. Prework Procedures:
   _____ CUSTOMER SAFETY ORIENTATION   _____ EVACUATION SIGNAL
   _____ COPY OF IIPP   _____ PLAN OF ACTION
   _____ OBTAINED NECESSARY PERMITS   _____ SAFETY DATA SHEETS
   _____ PERMITS IN PLACE
   _____ EMERGENCY MEDICAL CENTER LOCATION: ______________________________
       PHONE # ______________________________

3. Instructions For Weekly Tailgate Meeting:
   _____ REVIEW ALL JOB INJURIES   _____ DAILY INSPECTIONS
   _____ KEEP MEETING RECORDS

4. Job site Conditions:
   _____ PROPER LIFTING EQUIPMENT   _____ PROPER RAILS
   _____ HAZARDOUS MATERIALS/DISPOSAL   _____ PROPER SCAFFOLDING
   _____ HOUSKEEPING   _____ ACCESS LADDERS

5. Other Notes/Corrective Action:
   Complete
   1. ______________________________________________________   _____ Eng. Initial
   2. ______________________________________________________   _____ Eng. Initial
   3. ______________________________________________________   _____ Eng. Initial
   4. ______________________________________________________   _____ Eng. Initial

PROJECT ENGINEER ___________________________ JOB FOREMAN ___________________________

Signature ___________________________ Signature ___________________________
SECTION VIII
PRE-JOB SAFETY ANALYSIS PROCEDURE

1. Engineer/Project Manager or Safety Coordinator and the job Foreman will perform a minimum of one Pre-job Hazard Analysis (JSA) for each major job task daily or prior to starting a new job task. The hazard identification and assessment process will be used for routine and non-routine activities as well as new processes, changes in operation, products or services as applicable. The information needed to perform this task is provided in the job box that is sent to each project. Updated Job Hazard Analysis forms can also be found on the company internet. It is project management’s responsibility to insure that this procedure is implemented at the project, and that JSA forms are written and signed by the person performing the pre-job hazard analysis.

2. The form shall be filled out to address all existing hazards and potential hazards for the task being analyzed. The project manager is to involve all workers including foremen and safety managers in the development of the hazard assessment process and then the training process when the JSA is completed.

3. If there are any sub-contractors reporting to J.T. Thorpe & Son, Inc. management at the project they are to participate in this program. If there are any Sub Contractors who will work in the area where the J.T. Thorpe & Son, Inc activities are being performed, request them to be involved in the hazard identification and control process and when the training meeting covering this material is held.

4. Any action taken to eliminate or reduce hazards shall be noted.

5. Go over the Pre-job Hazard Analysis Worksheet with the entire crew. All subcontractors working for JTT will also implement this process. If the projects to be performed are to be coordinated between JTT and the subcontractor then the Pre-Job Hazard Analysis will be performed together. Make sure they understand the following safety procedures and hazards.

6. Have the crew sign the sheet. Make one copy for your records and send the original sheet in with your time.

7. If there is a potential of hazard gas exposure that requires the use of a personal monitor insure to discuss the type of hazard, why the use of the monitor and how to maintain the monitor including bump testing requirements.

8. Workers and management are to use the information obtained during the safety orientation process and ongoing training and apply this information to the hazards and controls identified during the Pre-Job Hazard Analysis process.

9. If the project management has been advised of a potential health hazard or pandemic issue the information outlined in section 34 of his manual will be addressed in the Pre-Job Hazard Analysis meeting and infection control programs put into place.

10. *See example Pre-job Hazard Analysis Worksheet on the following page.*

11. The JSA program will identify hazards and classify and prioritize the hazards. The following Risk analysis matrix outlining severity and probability is to be used when performing this task.

A. Rank the items on a “worst first” basis. The first ranking estimates the severity of the problem if the potential accident were to occur:

1. **Imminent Danger** (i.e., causing deaths, widespread occupational illness, loss of facilities).
2. **Serious** (i.e., severe injury, serious illness, property and equipment damage).
3. **Minor** (i.e., non-serious injury, illness, or damage).
4. **O.K.** (i.e., minor injury, requiring first aid or less).
5. **Not Applicable** (N/A).

B. The second ranking estimates the **probability of the accident occurring**:

1. **Probable** - likely to occur immediately or soon.
2. **Reasonably probable** - likely to occur eventually.
3. **Remote** - could occur at some point.
4. **Extremely remote** - unlikely to occur.

Each hazard is assigned both rankings, and the result determines when analyzing the risk for controls. Priority in terms of implementing corrective action also is to be taken into consideration. A hazard ranked 1-1 obviously is more important than one ranked 1-4; 2-2 comes ahead 3-1, and so on.

This information is to be explained when presenting the Pre-Job Hazard Analysis training meeting. Effective controls for high hazard, high probability issues must be addressed and fully understood.

When safety audits are performed the JSA hazard assessment program is to be reviewed prior to the audit. The procedures to prevent control hazards are to be identified. The audit is to insure the effective controls are in place. Any jobs with 1-1 to 2-2 hazards and found not being controlled must be stopped and proper controls put into place before the job is allowed to proceed. These findings must be reported to the project manager and regional manager imminently.

This program is to be addressed along with the use of proper PPE as a part of the company initial orientation process and review of the company code of safe practices. The “safety training checklist will be used to document the training. A daily pre-job hazard analysis meeting identifying hazards and proper PPE to be used will be held on the project daily. Records of the meeting will be maintained including who attended, date of the meeting and who presented the data.
## Pre-Job Safety Analysis Form

### Certification of Hazard Assessment

**Date:**
**Shift:**

**Meeting Conductor/Assessor:**
**Customer:**
**Job#:**
**Unit/Area:**

**Today's Specific Task:**

### Fall Protection

- **Anyone Overhead?**
- **Yes**
- **No**
- **N/A**
- **All Decks Clear Overhead?**
- **Yes**
- **No**
- **N/A**
- **Areas Barricaded?**
- **Yes**
- **No**
- **N/A**
- **Scaffold Correct?**
- **Yes**
- **No**
- **N/A**
- **Harnesses?**
- **Yes**
- **No**
- **N/A**
- **100% Tie Off?**
- **Yes**
- **No**
- **N/A**
- **Slick Surfaces?**
- **Yes**
- **No**
- **N/A**
- **Pail Handles Checked?**
- **Yes**
- **No**
- **N/A**
- **Wheel Pulleys Properly Rigged?**
- **Yes**
- **No**
- **N/A**

### Safety Data

- **Eyewash Location?**
- **Yes**
- **No**
- **N/A**
- **Safety Shower Location?**
- **Yes**
- **No**
- **N/A**
- **Fire Extinguisher Location?**
- **Yes**
- **No**
- **N/A**
- **Evacuation Area?**
- **Yes**
- **No**
- **N/A**
- **SDS Location?**
- **Yes**
- **No**
- **N/A**
- **Emergency Phone #?**
- **Yes**
- **No**
- **N/A**
- **Emergency Signal?**
- **Yes**
- **No**
- **N/A**
- **Process Safety/Work Order Reviewed?**
- **Yes**
- **No**
- **N/A**

### Confined Space

- **Air Monitor Required?**
- **Yes**
- **No**
- **N/A**
- **Hole Watch Required?**
- **Yes**
- **No**
- **N/A**
- **CPR?**
- **Yes**
- **No**
- **N/A**
- **Two Escape Routes?**
- **Yes**
- **No**
- **N/A**
- **Harnesses?**
- **Yes**
- **No**
- **N/A**
- **Emergency Procedure?**
- **Yes**
- **No**
- **N/A**
- **SDS Location?**
- **Yes**
- **No**
- **N/A**
- **Two Escape Routes?**
- **Yes**
- **No**
- **N/A**
- **Harnesses?**
- **Yes**
- **No**
- **N/A**
- **Emergency Procedure?**
- **Yes**
- **No**
- **N/A**

### Required Permits

- **Hazardous Materials Present?**
- **Yes**
- **No**
- **N/A**
- **Respirator Required?**
- **Yes**
- **No**
- **N/A**
- **Type:**
- **Ear Plugs Properly Used?**
- **Yes**
- **No**
- **N/A**
- **Gloves?**
- **Yes**
- **No**
- **N/A**
- **Face Shields?**
- **Yes**
- **No**
- **N/A**
- **Goggles? Gas Monitors?**
- **Yes**
- **No**
- **N/A**
- **Tyveks? Nomex?**
- **Yes**
- **No**
- **N/A**

### General Safety

- **Other Contractor Present?**
- **Yes**
- **No**
- **N/A**
- **Conflicting Jobs in Area?**
- **Yes**
- **No**
- **N/A**
- **Rigging Adequate/Safe?**
- **Yes**
- **No**
- **N/A**
- **New Workers Supervised?**
- **Yes**
- **No**
- **N/A**
- **Cords & Hoses Safely Routed?**
- **Yes**
- **No**
- **N/A**
- **Unit Locked/Tagged out?**
- **Yes**
- **No**
- **N/A**
- **Cylinders Tied?**
- **Yes**
- **No**
- **N/A**
- **Weather Present Problem?**
- **Yes**
- **No**
- **N/A**
- **Motorized Equipment Checked?**
- **Yes**
- **No**
- **N/A**
- **Hand Tools Safe?**
- **Yes**
- **No**
- **N/A**
- **Good Housekeeping?**
- **Yes**
- **No**
- **N/A**
- **Heat Stress Possible?**
- **Yes**
- **No**
- **N/A**
- **Equipment/PPE Inspected?**
- **Yes**
- **No**
- **N/A**
- **Proper Lifting Utilized?**
- **Yes**
- **No**
- **N/A**
- **Equipment Operators Trained?**
- **Yes**
- **No**
- **N/A**

### Existing or Potential Hazards

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Action Taken to Eliminate Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Safety Meeting Topics

Any Employee Should Stop Working When Hazards are Discovered! Correct or Report All Hazards!

**Crew Signatures**

(please turn over for additional signatures)
SECTION IX
CODE OF SAFE PRACTICES

These safety rules have been prepared to help you do your job with minimum exposure to injuries.

Past accident experience for masonry contractors performing refractory work has been evaluated to determine the areas where accidents are most likely to occur. These safety rules cover the areas that historically have caused the most serious injuries.

Your assistance is required to achieve our goal of NO ACCIDENTS. Additionally, coordination among the various crafts is necessary to control job hazards.

GENERAL RULES

1. Use good judgment in doing your work. Do not take unnecessary chances. If there is something about your job assignment that you do not understand, ask your Foreman before you proceed. If you have not been trained to operate a piece of equipment by JTT, do not operate it.

2. All employees shall follow safe practices, use personal protective equipment (PPE) as required, render every possible aid to safe operations, and report all unsafe conditions or practices. At a minimum, PPE for this job will include long sleeve shirt, long leg pants, steel toed boots (6" high), approved non-conductive hard hat, and proper eye protection with side shields J.T. Thorpe & Son, Inc. (JTT) will provide the hard hat and eye protection prior to you starting the job.

3. Unsafe conditions, acts, or equipment must be promptly corrected and/or reported to the Foreman or Superintendent so that corrective action may be taken before workers are injured. Employees are encouraged to report unsafe conditions or practices without any fear of retribution. If you believe the job is unsafe do not perform the work or stop the job until it has been made safe.

4. Employees are encouraged to report unsafe conditions or practices anonymously without any fear of reprimand or reprisal. If you believe the job is unsafe do not perform the work or stop the job until it has been made safe. All unsafe, unhealthy, or hazardous conditions or areas shall be immediately placed off-limits, out of order, out of bounds, etc. and promptly removed or corrected.

5. Supervisors shall insist on employees observing and obeying every rule, regulation, and order as necessary for the safe conduct of work.

6. Anyone failing to obey safety instructions, or otherwise failing to protect the life, health, safety and welfare of himself and others on the job, is subject to disciplinary action or termination.

7. No one will remove, displace, damage, or destroy a safety device furnished for use on the job, or interfere with its use.

8. Any physical impairment, whether temporary or permanent, should be reported to the employer at the time of hiring or as the condition arises. This is to ensure prompt and adequate medical treatment in an emergency.

9. A Supervisor or Foreman with reasonable grounds to suspect that an employee, under his jurisdiction, is either mentally or physically unfit for the work assigned, shall prohibit this employee from working until satisfactory medical or other evidence indicating otherwise is secured.

10. All injuries, despite how minor, must be reported to the Foreman and treated at once.

11. Never move an injured person unless it is absolutely necessary; further injury may result. Make the victim comfortable until trained personnel arrive.

12. Medications that slow or disturb senses are not compatible with construction activities. If in doubt, check with the employer.
13. Illegal possession or use of narcotics and/or non-prescribed tranquilizers or pep pills at the job site is not allowed. 
   *This includes any pain from repetitive tasks or jobs that lasts until the beginning of the next work shift.*

14. Alcoholic beverages are not allowed on the job. Anyone under the influence of an intoxicating beverage will be subject to disciplinary action.

15. No one will be allowed on the job while under the influence of alcohol or drugs. If prescribed or over the counter medication is used, it must be reported to the JTT project Safety Coordinator.

16. Running is not allowed on the job during work hours or at the end of a shift.

17. All employees are required to attend and participate in job site safety meetings. You will be advised of the time and place of these meetings.

18. Drive with care while entering and leaving the parking lot. Do not speed.

19. Use designated entrances and exits when entering or leaving the job site.

20. Horseplay will not be allowed on the job. Injury may result. Horseplay or fighting on the job is cause for immediate dismissal.

21. Do not turn air hoses on yourself or other employees.

22. Safety signs shall be used in areas where needed and promptly removed when no longer needed.

23. Always use the provided safe access to working areas.

24. Overhead protection shall be provided for men exposed to overhead hazards.

25. Work shoes or boots with steel toes shall be worn in construction areas. If required by the site Metatarsal guards will be worn. Tennis shoes or similar shoes are not allowed on the project.

26. Toilet facilities are provided; no other area shall be used for this purpose.

27. JTT provides PPE to be used on the project. Only use PPE provided by J.T. Thorpe & Son, Inc.

28. A minimum of 10 feet shall be maintained between JTT work and overhead electrical lines. If overhead lines are noted, contact the customer to ensure proper distances from line is maintained.

29. Vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained.

30. All electrical cords and equipment are to be inspected daily for external defects or for any indications of internal damage. Any damaged electrical cords or equipment are to be tagged and removed from service until properly repaired.

31. J.T. Thorpe & Son, Inc. is a refractory contractor only. We are not electricians and are not to work on exposed energized equipment. Electrical hazards, if any, must be controlled in confined spaces prior to our starting work. J.T. Thorpe & Son, Inc. employees will not enter any space, including a confined space, where there may be the potential for exposure to energized equipment. J.T. Thorpe & Son, Inc. employees are not electricians and this equipment must be repaired or de-energized prior to J.T. Thorpe & Son, Inc. workers entering the area (see lock out/tagout).

32. If work is to be performed near overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started. If the lines are to be de-energized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved, to de-energize and ground them.

33. When working on the ground in the vicinity of overhead lines, J.T. Thorpe & Son, Inc. workers may not bring any conductive object closer to unguarded, energized overhead lines than the distances indicated below.

<table>
<thead>
<tr>
<th>Voltage Range</th>
<th>Maximum Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>300V and less</td>
<td>Avoid Contact</td>
</tr>
<tr>
<td>Over 300V, not over 750V</td>
<td>1 ft. 0 in. (30.5 cm)</td>
</tr>
<tr>
<td>Over 750V, not over 2kV</td>
<td>1 ft. 6 in. (46 cm)</td>
</tr>
<tr>
<td>Over 2kV, not over 15kV</td>
<td>2 ft. 0 in. (61 cm)</td>
</tr>
</tbody>
</table>
34. Any vehicle (pick-up) or mechanical equipment (forklift) capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage.

35. J.T. Thorpe & Son, Inc. does not work with energized equipment, but if we are ever required to do so, no J.T. Thorpe & Son, Inc. employee will be allowed to wear jewelry or conductive apparel.

36. J.T. Thorpe & Son, Inc. workers will not handle any long conductive objects such as pipes or ducts around any energized electrical lines.

37. Employee Stop Work Authority
   - All employees have the authority and obligation to stop any task or operation where concerns or questions regarding the control of HSE risk exist.
   - No work will resume until all stop work issues and concerns have been adequately addressed.
   - Employees are responsible to initiate a Stop Work Intervention when warranted.
   - When an unsafe condition is identified the Stop Work Intervention will be initiated by the worker coordinated through the supervisor. This is to be done in a positive manner. The supervisor will notify all affected personnel and issue the stop work order until the issue has been correct. Then all JTT workers can resume work when they understand it is safe to do so.

38. All piping systems used to pump refractor or material shall be secured against displacement. Compressed air hoses used on concrete pumping system shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized.

39. J.T. Thorpe & Son, Inc. shall 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.

40. Forms shall not be removed until it is determined that the refractory or material has gained sufficient strength to support its weight.

41. PPE will be provided for using hand and power tools.

42. Any tool which is not in compliance with any applicable requirement is prohibited. Tools that are not in compliance with any applicable requirement will be identified as unsafe by tagging or locking the controls to render them inoperable.
PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

Individual protective equipment is provided while performing jobs that present specific injury exposures. Those employees that need to wear PPE will be properly trained. Retraining will be conducted if or when there are workplace changes which render the earlier training obsolete, the type of PPE changes, and/or when the employee demonstrates a lack of use, improper use, or insufficient skill or understanding of the PPE. PPE training will be documented.

1. Hard hats shall be worn at all times in all areas. Wear only plastic hats around electrical or energized equipment. Steel toe boots will be worn. When required by the customer, metatarsal guards will be used on the job. ANSI approved safety glasses with side shields will be worn at all times when on the project.

2. Proper protective eyewear must be obtained and worn at all times. At a minimum ANSE approved eye ware with fixed side shields will be worn. In addition goggle, face shields, or full face respirators may be required depending on the hazards found on the job. Check with your supervisor to insure you have the right protective eye ware for the work performed.

3. Use a safety harness when working on elevated work where there is no handrail protection, such as:
   a. Within six (6) feet of roof or platform edges.
   b. On scaffolding without handrails.
   c. On floats.
   d. On swinging stages.
   e. At elevated loading doors.
   f. On boatswain’s chairs
   g. On equipment and structures.
   h. On steep slopes.

4. Selected PPE will be fitted to each affected employee. PPE provided by JTT will be used and maintained in a sanitary and reliable condition. Any PPE that is defective and damaged shall not be used. Employee-owned PPE is not allowed.

   When working on a suspended platform, the safety harness shall be tied to a lifeline independent of the rigging supporting the platform. Tie the harness lanyard short and secure. Safety harnesses are to be used for safeguarding workers.

   When working with gunite, no employee shall be permitted to apply the gunite mixture through a pneumatic hose unless the employee is wearing protective head and face equipment.

5. Use gloves when handling materials and for protection against concrete, solvents, epoxies, creosote, acids, and other chemicals harmful to the skin. Use protective creams when instructed to do so.

6. Respiratory equipment may be needed for dust, fumes, mist, and atmospheres lacking oxygen. Make sure your equipment type fulfills the requirement of the particular breathing safety hazard. Check questionable areas—don’t guess.

7. Approved ear protection must be used when operating or working near saws, chipping hammers, or any other apparatus that creates noises that may damage your hearing.

8. Life jackets, properly fastened, must be worn at all times when working over or near water.
**BARRICADES AND HOLE COVERS**

1. Protect excavations and openings in the working surfaces of your areas with a barricade or hole cover. Hole covers shall be marked to prevent accidental removal.

2. Use 2’ scaffold grade lumber or equivalent for hole covers. Plywood may be used when appropriate.

3. Use barricades or signs as hazard warnings for excavations, overhead work, blasting, crane swing, use of powder-activated tools, radiation, and pressure testing. Also, use them to separate work areas from interfering traffic.

4. Use boards, rope, or barricade tape as warning barricades; however, handrails and guardrails must be made of a rigid material—never use rope.

5. If you create a hole, you must, through prior arrangements, have a hole cover ready for prompt placement or barricade it immediately.

**HOUSEKEEPING**

1. A safe work environment includes good housekeeping. Good housekeeping prevents accidents and fires and contributes to a professional work place.

2. Pile or stack material in a stable manner. Do not lean items in way that they are subject to falling.

3. Remove rubbish, scrap, and debris from work areas when possible. Do not allow unsafe accumulations.

4. Combustible materials, like oil-soaked or paint-covered rags, waste, or shavings shall not be allowed to accumulate, except in designated areas.

5. Never leave materials and supplies in stairways, walkways near floor openings, in roads, at edges of buildings when exterior walls are not built, or anywhere they will interfere with other work.

6. Welding cables, hose electric cords, etc. shall not be on stairs or in walkways where they create a tripping hazard.

7. Remove all projecting nails and wires. Protect vertical reinforcing steel bars when men are going to work over them.

**BASIC PRACTICES WHILE WORKING AROUND CRANES AND HOISTING OPERATIONS**

1. Keep the boom clear of overhead power lines. Approval must be given by the Project Manager when it is necessary to work near power lines.

2. Do not swing loads over other workmen, if possible.

3. Employees must not ride the headache ball or equipment being lifted.

4. Safety latches shall be placed on all mobile crane and other hooks.

5. Employees shall not eat, read, or talk to anyone other than their supervisor or signalman while operating equipment.

6. The swing radius of the crane superstructure shall be barricaded.

7. Rigging equipment, including slings (chain, nylon rope, or cables) used for material handling or lifting shall be inspected by a qualified person prior to use and on each shift, and as necessary during the work. Defective rigging shall be removed from service.
8. Rigging equipment shall not be loaded beyond its recommended safe working load, and load identification shall be attached to the rigging.

9. When not in use, rigging equipment shall be removed from the immediate work area and placed in the trailer or gang box so as not to present a safety hazard on the job.

10. Tag lines shall be used unless their use creates an unsafe condition.

11. Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

**TOOLS**

1. Use the right tool for the job and use it in the correct way.

2. Keep tools in good condition. Damaged, worn, mushroomed, and dull tools can cause injuries.

3. Powder-actuated tools shall be used only by licensed, qualified persons wearing proper PPE (including adequate hearing protection). Always warn other workers in the immediate area of the equipment use.

4. Do not use tools until you have been properly instructed and authorized to do so.

5. Do not remove machinery or equipment guards without authorization. Lock and tag the switch before removal.

6. Do not make repairs or jury rigs. Do not use cheaters. Do not tape hose leaks.

7. Compressed air equipment can be explosive; act accordingly. Safety-lash all hose connections.

8. Shut off air supply and bleed off lines before breaking connections.

9. Use valves to turn air on and off; do not kink the hose to do this.

**POWER HAND TOOLS (SAWS & DRILLS)**

1. Only use power hand tools if you have been trained.

2. Inspect electrical cords prior to use.

3. Ensure guards are in place prior to use.

4. Ensure blades and bits are sharp and in good condition

5. Ensure all guards are in place including guards for saw blades and that the automatic returns are not pinned open, but will properly close.

6. Use of any tool identified as unsafe is prohibited and shall be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.
Equipment Inspection Form

Equipment Inspected: _______________________
Date Inspected: _____________________________
Person Inspecting: __________________________

Items Needing Repair:

1. ___________________________________________________
2. ___________________________________________________
3. ___________________________________________________
4. ___________________________________________________
5. ___________________________________________________
6. ___________________________________________________
7. ___________________________________________________
8. ___________________________________________________
9. ___________________________________________________
10. ________________________________________________
GRINDERS

1. Make sure the rated rpm of the grinding wheel equals or exceeds the rpm rating of the grinder.
2. When in doubt as to rock type and rpm to use on a grinder, ask the Foreman.
3. Keep guards in place on all portable and bench grinders. Turn grinders off when finished.
4. Store grinders so the grinding wheel will not get cracked. Do not drop or handle roughly.
5. Return malfunctioning or defective grinders for repair. Protective eyewear must be worn when grinding or buffing.
6. Glass shields on bench grinders shall be kept in good repair.
7. Install wheels with proper arbor size.

COMPRESSED AIR AND PRESSURIZED HOSE

1. Never use compressed air for blowing dust off clothes.
2. Never direct compressed air or other pressurized hoses at people.
3. Use protective eyewear when cleaning with a water hose and pressurized air.
4. The air hose and air tools must have a safety device on each connector to keep the hose from flying loose under pressure. Chicago fittings must be wired.
5. Before breaking joints on compressed air lines or hose, make absolutely sure that the air pressure is bled off.
6. Protect the air hose from moving equipment.
7. All air receivers used must meet ASME code and provided with proper safety relief devises.

GASOLINES, FUEL OILS
AND OTHER FLAMMABLES

1. Gasoline, fuel oils, and other flammables must be stored in approved containers, properly identified, and located a safe distance from open flames, welding, or other spark-producing operations.
2. NO SMOKING while handling flammables.
3. All gasoline engines must be shut off while refueling.
4. Keep class “B” fire extinguishers available on all fuel sites.
5. Extreme care should be exercised while welding, burning, or performing any task that presents a fire hazard. Every employee shall be alert to fire extinguisher locations and be familiar with the type to use on the various class of fire.
6. Gasoline should not be dispensed for any purpose unless an approved safety can is used and must be grounded and bonded.

CHIPPING GUN OPERATION

1. Mandatory PPE to be worn while operating a chipping gun consist of Long sleeve shirt, hard hat, full face respirator, ear plugs, steel toed boots and gloves.
2. It is never ok to hold the chisel shank while operating the chipping hammer.

3. Prior to operation the chipping hammer you must first inspect the chipping hammer to insure it is in proper operating condition.

4. Special caution must be used to insure the retainer spring is secured because the chisel shank can eject from the chipping hammer. Because of this it is required that you turn off the air supply when changing out the chisel shank.

5. If my chipping hammer malfunctions, make sure to turn the air supply off and notify my foreman and he/she will get me another chipping hammer.

**LADDERS AND SCAFFOLDING**

1. The use of ladders with broken or missing rungs, broken or split side rails, or other faulty construction is prohibited. Defective ladders that are discovered will be immediately withdrawn from service.

2. Portable wood ladders shall be equipped with non-slip bases securely bolted or riveted to the side rails.

3. Portable ladder feet shall be placed on a substantial base, and the area around the top and bottom shall be kept clear.
   a. Ladders should be placed so the horizontal distance from the top support to the base is about one-quarter of the working length of the ladder.
   b. No ladder shall be used in a horizontal position as a platform or walk board.
   c. Portable ladders shall be tied, blocked, or otherwise secured to prevent displacement.
   d. Ladders shall not be loaded beyond its maximum intended loading or beyond the manufacture’s rated capacity.
   e. All ladder rungs, cleats, and steps shall be parallel, level and uniformly spaced, when the ladder is in position for use. The top or top step of a stepladder should not be used as a step.
   f. An employee should not carry any object or load in such a way that could result in the employee to lose balance and fall.
   g. When ascending or descending a ladder, the user shall face the ladder.
   h. All scaffold work levels 30 inches or higher above the ground or floor shall have guardrail protection 42 to 45” high with mid rail, designed for live load of 20 pounds applied vertically or horizontally. See GISO Article 2. Section 3209 and 3210 for additional information.

4. Portable metal ladders or ladders with conductive sides shall not be used for electrical work or where they may contact electrical conductors.

5. Ladders shall be used only for the purpose for which they were designed.

6. Use only proper equipment like ladders and stairways to reach platform levels. Do not climb bracing, handrails, guardrails, etc.

7. Side rails of ladders shall extend no less than 36 inches above the landing. If this is not practical, grab rails providing a secure grip shall be installed.

8. Unstable objects like barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffold or planks.
9. The maximum work level height of a scaffold shall not exceed 3 times the least base dimension below the platform. Where the basic mobile unit does not meet this requirement, outrigger frames shall be employed to achieve this least base dimension, or provisions shall be made to guy or brace the unit against tipping.

10. Guardrails for work platforms and scaffolds shall be installed on all open sides and ends of platforms more than six (6) feet above the ground.
   a. If the customer requires scaffold work platforms that are 30 inches or higher above the ground or floor shall have proper guardrail protection installed. Guard rails shall be installed to meet OSHA requirements including height, mid rails, toe boards, and be able to withstand side.

11. All scaffold work levels 6 feet or higher above the ground or floor shall have a toe board at locations where persons are required to work or pass under the scaffold.

12. All planking shall be scaffold grade and either overlapped a minimum of twelve (12) inches or secured from movement. Plank shall extend over their end supports no less than six (6) inches or more than twelve (12) inches.

13. Tubular scaffolds shall be securely braced against the building or structure. Tubular scaffolds shall be tied at intervals not to exceed 30 feet horizontally and 26 feet vertically.

14. When free-standing mobile scaffold towers are used, the height shall not exceed four (4) times the minimum base dimension.

15. Mobile scaffolds shall only be moved on level floors, free of obstructions and openings.

16. Employees may ride on a manually propelled scaffold only if the wheels are equipped with rubber tires, tools, and materials are secured or removed from the platform and the minimum dimension of the base is at least half the height.

17. Ladders shall be inspected by a competent person assigned by J.T. Thorpe & Son, Inc. at start of shift or prior to use. If any visible defects are found, they will be repaired by competent person or the ladder will be removed from service.

**STAIRWAYS**

1. Every flight of stairs having four (4) or more risers shall be equipped with standard stair railings or handrails as required.

2. Stairways, ladders, or ramps shall be provided for employees during construction on all structures of two (2) or more floors (20 feet or more) in height.
   a. Stairways shall be free of all debris.
   b. Stairways shall be kept free of hazards like protruding nails.
   c. Slippery areas like stairways shall be cleaned immediately.

3. Wooden treads on stairways shall be full width.

**SMOKING**

Smoking is prohibited except in special designated areas. Confirm with your Foreman the location of these areas before smoking on the job.

**CONFINED SPACE ENTRY**

A confined space is defined as a space that, by design, has limited openings for entry and exit, has unfavorable natural ventilation that could contain or produce dangerous air contaminants, and is not intended for continuous employee
occupancy. Confined spaces include, but are not limited to, storage tanks, ship compartments, process vessels, pits, silos, furnaces, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines.

Work preparation includes monitoring and testing equipment and work area in addition to wearing safety equipment. Before working in any vessel, you must ensure the following is in place:

1. Confined space entry permit.
2. Isolation permit.
3. Standby person.
4. Proper protective equipment like respirator, safety glasses, clothing, and work shoes (check with your Foreman).

**POSSIBLE RAIL ROAD EXPOSURE**

Some JTT projects will be performed where Rail Road lines will be located. Due to the serious safety hazards that can be associated with Rail Road operation site specific safety procedures are normally established by our customer. These customer requirements will normally be trained upon at the on site safety orientation. At a minimum the following safety procedures will be followed if rail road operations are performed near our project:

1. If at all possible stay away from rail road tracks and operations.
2. All J.T. Thorpe & Son workers will cross Rail Road tracks at designated crossings. Note that vehicle crossings are not pedestrian crossings unless indicated as such.
3. If a designated crossing is not available, do not cross within 10 feet of the end of a parked rail car,
4. Do not cross between uncoupled cars, stop, look and listen prior to proceeding across the tracks, and never step on rails, as they may be slippery.
5. If a designated crossing is not available, do not cross within 10 feet of the end of a parked rail car, do not cross between uncoupled cars, stop, look and listen prior to proceeding across the tracks, and never step on rails, as they may be slippery.
6. Never crawl under a rail car or crawl onto a moving Rail car. Do not cross in front of a rail car if it is moving. Moving rail cars create pinch points, never position you body between, in front of or behind a parked rail car, it may move.
7. Prior to starting work within 6 feet of any rail road line, J.T. Thorpe & Son, Inc management will received from the site a permit to perform the duties and insure that the rail line is shut down and taken out of service.
8. Prior to starting work around any railroad operation in a plant, the Project manager will review with the proper plant representative the safety procedures to be followed for this work.
   a. These procedures will be outlined in the project work order
   b. A training outline will be developed from this data.
   c. All J.T. Thorpe & Son, Inc workers on site will be provided on this data prior to their starting on the project.
   d. This training will be documented with the names of the workers trained, date training took place, and person who performed the training.
   e. Assessments through job observations will be performed by J.T. Thorpe & Son, Inc site management to determine whether the workers show the knowledge and demonstrated skills to safely perform their work assignments around the rail operations.
**WORK PERMITS**
*(IF REQUIRED)*

The three (3) types of work permits that must be present on a job work may begin are: **Entry**, **Hot Work**, and **Cold Work**. If required by the customer, a **Safe Work Permit** will be issued upon the request of the customer.

At least one of these permits must be at the work site and valid before the start of work. These permits may look different at different plants. The permits required for various jobs may be different. Before starting work, the Foreman shall demonstrate that the proper permit has been obtained.

If required by the customer, and at the request of the customer, the following policies should be followed in respect to Safe Work Permits:

- A Safe Work Permit is issued for all high-risk and non-routine tasks. When performing low-risk/routine tasks, the authorized permit issuer (the customer) should be consulted to determine if a safe work permit is needed. Deviations from a work permit may apply in the event of an emergency.

- A Safe Work Permit should be issued and executed before work on a task begins. In certain situations it may not be reasonably practical to issue the permit prior to work beginning. Any such exceptions should be authorized by the customer’s site supervisor.

- **Permit Requestor**: Customer representative requesting a Safe Work Permit; identifies hazards and proposed controls. The Permit Requestor shall not issue Safe Work Permits to themselves.

- **Permit Issuer**: Customer representative who is approving use of Safe Work Permit, ensures site preparations are complete and informs individuals affected by the work.

- **Permit Holder**: Individual responsible for obtaining the Safe Work Permit and ensuring work is carried out in accordance with conditions of the Work Permit.

- Before the beginning of each shift, a thorough review of any active Safe Work Permits should be completed.

- If the work scope changes, then the current safe work permit should be closed and a new permit should be issued. In situations where new, previously unidentified hazards arise, the safe work permit will be suspended and reviewed.

- A risk assessment should be conducted to identify and assess hazards. Proper controls must be implemented to mitigate identified hazards.

**PROCEDURES FOR EMERGENCY EVACUATION**

1. The Foreman shall count heads at the beginning of each shift.

2. He will review the job site evacuation signal and location with employees before beginning the job.

3. In an emergency, all personnel shall report to the designated emergency evacuation location.

4. If evacuation results from an emergency or drill, the Foreman shall count heads to ensure all men are present at the designated location.

5. Foreman shall notify the job site’s safety personnel or responsible party of any missing personnel immediately.

**HYDROGEN SULFIDE (H2S) AWARENESS INFORMATION**

1. Hydrogen Sulfide (H2S) is a highly toxic colorless gas that can be found in various refineries and chemical plants.

2. H2S has an offensive odor, commonly compared to that smell of rotten eggs and is heavier than air with a Vapor Density of 1.189

3. Air purifying respirators will not work with H2S.
4. Exposure to H2S gas can result in eye irritation and will kill the sense of smell.

5. If you are in a chemical plant of refinery and you smell H2S you are to evacuate the area and report follow proper reporting procedures as outlined in the emergency procedures trained at the start of the job.
I have read and understand the CODE OF SAFE PRACTICES and other training provided by J.T. THORPE & SON, INC. and have attended the safety meeting dated __________.

NAME (print)                                         NAME (sign)  DATE
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Presented by: ________________________________
Signature:   ________________________________
SECTION X

HAZARDOUS SUBSTANCE POLICY

Avoiding the handling or transporting of hazardous materials when possible is a policy of J.T. Thorpe & Son, Inc. Handling or transporting hazardous substances, when necessary, shall be performed according to the procedure outlined below.

A. Definition of Hazardous Substances.
   1. Substances in the "List of Hazardous Substances" published by Cal/OSHA.
   2. Substances identified as hazardous by container markings or other means.
   3. Substances known to represent health risks, and not identified in 1 or 2 above.

B. Handling of Hazardous Substances
   1. Employees shall be familiar with "Safety Data Sheets" for hazardous substances being handled.
   2. Applicable SDSs shall be available at the job site.
   3. Appropriate eye, respiratory, and skin protection shall be worn as noted on SDS sheets.

C. Transportation of Hazardous Substances
   1. All drivers shall possess, at all times, a copy of the Corporate Hazardous Materials Transportation License. (A copy is attached for reference.)
   2. Two (2) side, one (1) front, and one (1) rear placard shall be mounted on the vehicle indicating the presence aboard of hazardous substances.
   3. Drivers shall have appropriate shipping papers identifying the hazardous substances as such including CAS or UN number. See example attached.
   4. Containers shall be secured to prevent spillage or other upset of hazardous substances.

D. Training
   1. Quarterly meetings introducing new material shall be held with all drivers and employees that handle and transport hazardous substances.
   2. All drivers and other applicable employees shall be trained in the handling and transporting of hazardous substances.
SECTION XI
SAFETY DATA SHEET

Valuable information for the safe use, handling and disposal of chemical materials on the site may be obtained from the manufacturer or supplier in the form of a Safety Data Sheet (SDS). Each SDS describes the physical and chemical properties of one chemical material or substance. It also provides information for first aid treatment and special personal protection, procedures for cleanups, and precautions for storing and handling that are appropriate to the material.

The Safety Data Sheet is designed to inform the user of the properties of the material and to suggest proper controls for protecting employees, property, and the environment against injury or damage. The data sheet also helps the user set up and maintain appropriate controls so that he can avoid preventable accidents.

Below is an outline of the contents of a Safety Data Sheet.

SECTION I - IDENTIFICATION

Name, address, and phone number of the manufacturer or distributor. Material and trade names, chemical family and other designations, as well as the recommended use and restrictions on use.

Pay particular attention to the EMERGENCY TELEPHONE NUMBER. This information should be readily available in the event of an emergency. The date the SDS was prepared is important because you should always refer to the most recent SDS for accurate information. Not only does new information on chemicals become available with time, but product formulas change.

SECTION II – HAZARD(S) IDENTIFICATION

Identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards.

SECTION III – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients and their percent (%) concentrations in the material, as well as their toxicity; also hazardous mixtures of other substances. Properties such as boiling point, vapor pressure and density, solubility in water, evaporation rate, percent volatile, and characteristic appearance and odor.

SECTION IV – FIRST-AID MEASURES

Includes important symptoms/effects (acute and delayed) as well as the initial care and required treatment that should be given by untrained responders to an individual who has been exposed to the chemical.

SECTION V – FIRE-FIGHTING MEASURES

Properties such as flash point (method of ignition), auto ignition temperature, and lower and upper limits in the air. This information is very important for materials used near sources of ignition or within poorly ventilated spaces. Also includes means of extinguishment and special procedures for fire fighting.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Lists recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, properties or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard.

SECTION VII – HANDLING AND STORAGE

Lists precautions for safe handling practices and conditions for safe storage of chemicals.
SECTION VIII – EXPOSURE CONTROLS/PERSOAL PROTECTION

Lists OSHA’s Permissible Exposure Limits (PELs), Threshold Limit Values (TLVs), appropriate engineering controls, and personal protective equipment (PPE) that can be used to minimize worker exposure.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Identifies the physical and chemical properties associated with the substance or mixture.

SECTION X – STABILITY AND REACTIVITY

Stability of the material and the possibility of hazardous reactions. Other materials that are incompatible. Hazardous decomposition products and hazardous polymerization, with related conditions to avoid.

SECTION XI – TOXICOLOGICAL INFORMATION

Identifies the toxicological and health effects information including routes of exposure, related symptoms (acute and chronic effects), and numberical measures of toxicity, or indicates that such data is not available.

SECTION XII – ECOLOGICAL INFORMATION (NON-MANDATORY)

Provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment.

SECTION XIII – DISPOSAL CONSIDERATIONS (NON-MANDATORY)

Guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handing practices.

SECTION XIV – TRANSPORT INFORMATION (NON-MANDATORY)

Guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea.

SECTION XV – REGULATORY INFORMATION (NON-MANDATORY)

Identifies the safety, health and environmental regulations specific for the product that is not indicated anywhere else on the SDS.

SECTION XVI – OTHER INFORMATION

Includes the date of preparation or last revision. Other useful information may also be included here.
SECTION XII
SCAFFOLDING PROCEDURES

SCAFFOLD EQUIPMENT PLANKING
A plank is designated as 2 x 10 inches of approved material, free of defects that alter its carrying capacity (such as knots or breaks). A plank shall overhand the ledgers by at least 6”.

SCAFFOLD PIPE AND CLAMPS
Only approved pipe, bracing, and clamps shall be used.

INSPECTION PROCEDURES
All scaffolding equipment shall be inspected before shipment to the job site.

All scaffolding equipment shall be inspected periodically by the job Foreman.

INSTALLATION PROCEDURES
Scaffolding shall be performed under the supervision of qualified employees. Installation shall be accomplished according to accepted practice. If work is done on a rolling scaffold then the casters shall be of proper design with locking casters. Work platform shall be level. If necessary screw jacks or other approved means shall be used to insure the platform is leveled when installed.

The vertical pipes shall be spaced no more than 7’ 6” apart over the length of the scaffold.

Guard rails shall be installed at all open ends 42 to 45 inches above the planking. Railings shall be provided per requirements of California Constructions Safety Orders sub chapter 4 section 1621 or Federal OSHA regulations 29 CFR 26 subpart 9 which requires handrails be installed for temporary work platforms 6’ or greater above ground. If our customer has a more stringent requirement such all temporary work platforms will be treated a permanent platform requiring rails at 30 “above the ground, the more stringent requirement will be followed.

Toe boards shall be installed at all open ends and sides. Lumber shall be 1” x 4” or 2” x 4”. When workers may be assigned to perform activities below the scaffold work level toe boards will be provided.

External scaffolds shall be secured to structures with heavy wire or equivalent, at intervals not to exceed 30 feet horizontally and 26 feet vertically.

Internal scaffolds shall be securely braced against the inside structure to ensure stability. If work is performed on scaffold outside of a unit, the height of the scaffold shall not exceed the base dimension unless the scaffold is properly tied, guyed or otherwise secured.

Scaffolds used by J.T. Thorpe & Son, Inc. employees for refractory work (tear out and installation) shall be heavy duty scaffold designed to hold 75 pounds per square foot spread load. If work other than tear out or installation operations is performed on scaffold, the platforms will be designed to meet OSHA light duty (25 pounds) or medium duty (50 pounds) as needed.

STAGING OF MATERIALS
Materials shall be placed on the planks without affecting the carrying capacity of the scaffold. Typically, materials shall be placed over the cross members of the scaffolding.
SECTION XIII
EMPLOYEE HAZARD CHECKLIST

TO BE REVIEWED BY FOREMAN WITH EMPLOYEES

- REVIEW AND EXPLAIN APPLICABLE SAFETY DATA SHEETS OF THE JOB.

- ADVISE EMPLOYEES OF POTENTIAL HAZARDS ASSOCIATED WITH MATERIALS ON THE JOB: SOLVENTS, MONOLITHIC REFRACTORIES, MORTARS, ETC.

- REVIEW STORAGE AND HANDLING PROCEDURES FOR ALL MATERIALS ON THE JOB.
SECTION XIV
ASBESTOS POLICY

1. By policy, J.T. Thorpe & Son, Inc. employees shall avoid all contact with materials containing asbestos. J.T. Thorpe & Son, Inc. is not an authorized asbestos contractor. J.T. Thorpe & Son, Inc. workers will not work with asbestos containing materials.

2. If asbestos is suspected in existing insulations or refractories, do not remove or handle until properly tested. Advise the Project Manager and or Safety Manager immediately. If the Project Manager suspects the refractory may contain asbestos (cannot verify installation after 1985), require the customer to certify that the refractories or other material are asbestos-free prior to starting work. Be aware that this material may be found in old refractory (installed prior to 1980), pipe insulation, gaskets, etc. If you suspect that these refractory materials or other materials may contain asbestos, do not disturb the materials, leave them alone and report your concerns to J.T. Thorpe & Son, Inc. management.

3. J.T. Thorpe & Son, Inc. will use only licensed subcontractors who have authorized personnel to test materials suspected of containing asbestos. This testing is to be performed and asbestos free work area verified prior to starting work.

4. If, after proper testing, insulation or refractory material is determined to contain asbestos, the material shall be removed only by licensed subcontractors whose workers are trained and authorized to work with asbestos materials. J.T. Thorpe & Son, Inc. is not an asbestos contractor.

5. J.T. Thorpe & Son, Inc. workers do not work with asbestos and our workers are not required to have OSHA specific safety training as certified asbestos workers. However, the potential for J.T. Thorpe & Son, Inc. workers to come into contract with Asbestos Containing Materials does exist, and all J.T. Thorpe & Son, Inc. employees will receive documented hazard awareness training at initial assignment of the job to recognize hazards and to implement proper and OSHA required controls.

6. Asbestos materials are used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet, and fire-resistant drywall. For the purposes of J.T. Thorpe and Son, Inc's work Asbestos could potentially be present in pipe and boiler insulation materials, pipeline wrap and in sprayed-on materials located on beams, in crawlspace, and between walls.

7. Because J.T. Thorpe & Son, Inc. workers do not work with asbestos, OSHA specific Industrial Hygiene (IH) testing to establish exposure is not required. However, if J.T. Thorpe & Son, Inc. ever did asbestos work, exposure monitoring under the direction of a Certified Industrial Hygienist would be performed to ensure that no employee would be exposed to airborne concentrations of asbestos in excess of 1.0 fiber per centimeter of air.

8. J.T. Thorpe & Son, Inc. workers are advised annually that J.T. Thorpe & Son, Inc. is not an asbestos contractor. J.T. Thorpe & Son, Inc. workers are not exposed to or above the PEL airborne concentrations for asbestos. If, at any time, J.T. Thorpe & Son, Inc. workers must be exposed to or above the airborne concentrations of asbestos, they will be trained annually on the requirements to work with asbestos.

9. J.T. Thorpe & Son, Inc. is not an asbestos contractor. If asbestos work must be done by others, J.T. Thorpe & Son, Inc. will ensure that a proper work zone (regulated area) is established. All J.T. Thorpe & Son, Inc. workers will be trained to stay out of the asbestos-regulated area. This work zone will be identified by use of proper signs.

10. J.T. Thorpe & Son, Inc. JTT does not perform work on asbestos containing material. If for some reason work is required, engineering controls including wetting techniques will be implemented prior to starting work. Exposure testing would also be performed. If findings indicate workers may be exposed to asbestos contamination at the action level, a written program to reduce the exposure will be implemented.
11. J.T. Thorpe & Son, Inc. JTT does not perform work on asbestos-containing material. If for some reason work is required, the minimum PPE requirements will be disposable Tyvex coveralls with hoods, gloves, cover-ups for the boots, a procedure for taping and removal of the coveralls in a properly protected regulated area, goggles and face shields (if full-face respirators are not required), and a respirator providing the proper protection factor to control the exposure. Respirator protection, along with other PPE listed, will be provided to workers at no cost to the employee. This PPE will be used if J.T. Thorpe & Son, Inc. JTT workers are ever required to work with asbestos and the protection is needed for general work practice controls, work operation control, reduce exposures, or in the event there was an emergency.

12. If J.T. Thorpe & Son, Inc. employees are working immediately adjacent to a Class I asbestos jobs and are exposed to asbestos due to the inadequate containment of such job, project management will either remove the workers from the area until the enclosure breach is repaired or an Industrial Hygiene survey can be perform to demonstrate no exposure to workers.
SECTION XV
CONFINED SPACE PROCEDURES

INTRODUCTION

Occasionally, it will be necessary for employees to work in confined spaces. The following confined space procedure will be followed as a minimum acceptable standard for J.T. Thorpe & Son, Inc. employees on any project.

CONFINED SPACE ENTRY PROCEDURE

This standard establishes minimum criteria to ensure the safety of all J.T. Thorpe & Son, Inc. employees required to enter, work in, and exit confined spaces.

PROCEDURE

1. Definition of a Confined Space

A confined space is large enough and so configured that an employee can physically enter and perform assigned work. It has limited or restricted means for entry or exit. Examples include banks, vessels, hoppers, bins, vaults, etc. A confined space is also not designed for continuous employee occupancy.

2. Definition of a Permit Required Confined Space

The confined space contains or has the potential to contain the following:

a. Hazardous atmosphere
b. Contains material that has potential for engulfing an entrant
c. Internal configuration such that an entrant could be trapped or asphyxiated by an inwardly merging wall or by a floor which slopes downward and tapers to a smaller cross section
d. Contains any other recognized serious safety or health hazard
e. Existing ventilation is insufficient
f. Ready access or egress for the removal of a suddenly disabled employee is difficult due to the location and/or size of the opening.

3. When the Confined Entry Procedure Must Be Used

This procedure must be followed any time a J.T. Thorpe & Son, Inc. employee enters a process vessel or tank, hopper, bin, or any other area which satisfies the definition of a confined space. The specific precautions required prior to and during entry into the confined space will vary according to the nature of the work performed, whether the confined space is a "permit required" or "non-permit required" confined space, and whether the specific hazards associated with the confined space permit required or not.

GENERAL REQUIREMENTS

1. Prior to entry and during entry as necessary, atmospheric testing must be conducted and documented on a Confined Entry Permit as to oxygen content and the presence of flammable or toxic gases.

2. If the host employer has not designated an entry supervisor for entry into a permit required confined space, J.T. Thorpe & Son, Inc. will designate the supervisor prior to any work starting. The entry supervisor will have received training to be able to identify existing and predictable hazards involved with entry into the confined space, and has the authority to take prompt corrective action to eliminate or properly control any hazards identified prior to or during entry operations.
Permissible exposure limits and acceptable Oxygen levels are as follows:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>19.5 - 23.5%</td>
</tr>
<tr>
<td>Combustibles</td>
<td>10% L.E.L</td>
</tr>
<tr>
<td>H₂S</td>
<td>10 PPM</td>
</tr>
<tr>
<td>CO</td>
<td>25 PPM</td>
</tr>
<tr>
<td>SO₂</td>
<td>2 PPM</td>
</tr>
</tbody>
</table>

3. A standby person designated as a "safety watch" shall be stationed at the entrance to a permit required confined space. The safety watch will be trained on their position’s requirements and duties.

4. A completed entry permit and log of all employees who enter a permit required confined space will be kept at the entrance, in order to identify working conditions and determine which employees are in the confined space at any given time.

5. Adequate ventilation will be provided to the confined space to ensure removal of fumes and to improve circulation.

6. The confined space will be evaluated for the rescue and retrieval of entrants. A formal rescue program that is coordinated with the customer will be developed. This will be done on permit required and non-permit required confined spaces. When necessary, harnesses and retrieval lines will be used when this does not create a greater hazard.

7. All additional hazards associated with the work to be performed in the confined space shall be reviewed with respect to the nature of the work and the safeguards necessary to protect personnel in the confined space.

**RESPONSIBILITIES**

1. **SUPERVISOR**
   a. Training employees in the specific hazards associated with confined space entry and procedures required.
   b. Ensure all other safety procedures are in effect, such as Lock Out/Tag Out, Emergency Action Plan, Permits, Respiratory Protection, Etc.
   c. Assigning workers to performed the necessary job tasks.
   d. Assigning a trained person as a safety watch and ensuring that a communication system is effective between the safety watch and the entrant.
   e. Ensuring that proper personal protective equipment is made available and used by workers during entry.
   f. Verify means of summoning the rescue services and ensure the safety watch can perform this function.
   g. Certify that safe conditions are met prior to entry into permit-required confined spaces.

2. **WORKERS**
   a. Observing and following all precautions as indicated in Confined Space Entry Procedure.
   b. Care in use of special equipment required during entry to confinements.
   c. Evaluating the conditions of the job to ensure that employees are not at risk and to report any potentially hazardous conditions to the supervisor.
   d. Communicating with the safety watch to ensure all conditions remain safe.
3. **SAFETY WATCH**
   
a. Must maintain an accurate account of entrants.

b. Must remain outside the confined space during entry operation until relieved by another trained safety watch.

c. Must communicate with entrants as necessary to monitor the confined space and alert about possible hazards.

d. Must evacuate the personnel from the confined space, should a hazardous condition or signs thereof arise inside or outside the confined space.

e. Must summon rescue or emergency services should any incident occur within the confined space. Safety watch is not to enter the confined space, even during emergency situations.

f. Must not allow any unauthorized person or persons without the proper personal protective equipment to enter the confined space.

g. Must not perform duties that might interfere with the primary duty to monitor and protect entrants.

h. Keep entrance to the confined space accessible.

4. **SAFETY DEPARTMENT**
   
a. Training employees on a periodic basis on the requirements of confined entry and procedures.

b. Providing technical assistance in the selection of personal protective equipment and assistance in obtaining special testing equipment, if required.

c. Auditing the Confined Entry program on a regular basis to ensure its effectiveness.

**TESTING**

No employee shall enter a confined space until proper tests have been conducted to ensure the absence of dangerous gases or vapors. Once testing has been completed and the vessel or structure is approved for entry, signs near the access way shall be posted. These tests shall be performed by trained personnel wearing proper protective equipment. Once testing has been completed and the vessel or structure is approved for entry, signs near the access way should be posted indicating that it is safe to enter.
SECTION XVI
RESPIRATOR PROGRAM

I. Introduction

The primary objective in controlling occupational diseases caused by breathing contaminated air is to prevent harmful exposure. This is partially accomplished by accepted engineering control measures like general and local ventilation, enclosure or isolation, and the substitution of less hazardous processes and materials. When engineering controls are inapplicable, or while they are being instituted, proper respirators are required.

II. Scope

The procedures described here constitute the Company program for respirator use on all job sites including Company yards.

III. Responsibility

A. The persons responsible for coordinating the respirator program, by office, are as follows: Northern California, Rory Lewis; Southern California, John Towning; Tucson, Dave Decker; Salt Lake City, Robert Byrd; St Louis (Maynard Anderson) and Kentucky, Ryan Heneman.

They are responsible for the following:

1. Providing appropriate respirators.
2. Implementing training and instruction programs.
3. Administering the Respiratory Medical Surveillance program.
4. Administering the overall Safety Program.

B. The assigned job site engineers and site foremen are responsible for:

1. Insuring that respirators are readily available.
2. Insuring that employees wear respirators as needed.
3. Inspecting respirators on a regular basis.

C. Employees are responsible for:

1. Using the supplied respirator according to instruction and training.
2. Cleaning, disinfecting, inspecting, and storing respirators after each use.
3. Reporting respirator malfunctions to the supervisor.
D. Project engineers are responsible for:

1. Ensuring the Company safety standards, e.g. the respirator requirement, are implemented.

E. The Respirator Program Coordinator (Rory Lewis), La Mirada-Safety Manager (John Towning), Tucson-Safety Manager (Dave Decker), Salt Lake City-Safety Manager (Robert Byrd), St, Louis-Safety Manager (Maynard Anderson) and Kentucky (Ryan Heneman) are responsible for providing the following:

1. Technical assistance to determine the need for respirators and to select appropriate types. This will be done in conjunction with the Site Engineer.
2. Surveillance, in conjunction with the Foreman, of work area conditions.
3. Periodic evaluation of the respirator program.
4. Educational materials and programs for employee training.
5. Medical attention that includes an annual baseline Pulmonary Function study. The study shall include, but not necessarily be limited to, FEV1, FVC, and FEF 25%-75%. Results shall be recorded.

IV. Respirator Selection

Respirators are selected by the Project Manager and approved by the respirator program coordinator based on the physical, chemical and physiological properties of the air contaminant, the expected airborne contaminant levels, and work conditions. Respirators typically used are 3M 8710 or 3M 6500 half-face cartridge type with the appropriate cartridge. The comfort, fit, and the type of work being done also affect the choice of respirators. The capability of the chosen respirator is determined from appropriate governmental approvals, assigned protection factors, manufacturers' tests and plant experience.

V. Distribution

Respirators shall be issued whenever possible. Individually assigned respirators can only be identified or marked in a way that does not interfere with performance. The date of issuance shall be recorded and maintained at the job site with copies sent to the local Company office.

VI. Inspection and Maintenance

Respirators shall be properly maintained to retain their original effectiveness by periodic inspection, repair, cleaning and proper storage.

A. Inspection

1. All respirators shall be inspected routinely by the user, before and after each use, as well as after cleaning. Users should check condition of the face piece, headbands, valves and hoses, in addition to the canister, filter, and cartridge fit.
2. The local Warehouse Supervisor shall inspect respirators at least once a month, or when they are sent back from job sites, whichever is more frequent.
3. Emergency respirators shall be tagged noting the date of inspection, the initials of the inspector, and a respirator identification number. A log indicating these inspections shall be maintained in the plant office.

B. Maintenance
Respirators that fail inspections shall be replaced or repaired immediately. User repair shall be limited to changing canisters, cartridges, filters, and head straps. All other replacements or repairs shall be performed by the Warehouse Supervisor with parts designed for the respirator. No attempt shall be made to replace components, or make adjustments, modifications or repairs, beyond manufacturer recommendations.

VII. Cleaning

Individually assigned respirators shall be cleaned and disinfected frequently to provide proper protection. Other respirators, including those reserved for emergency use, shall be cleaned and disinfected after each use.

VIII. Training

Employees who may have to wear respirators shall be trained in their proper use. Employees, engineers, and foremen will receive respirator training that includes the following:

A. Description.
B. Intended use and limitations.
C. Proper wearing, adjustment, and annual testing for fit.
D. Cleaning and storage methods.
E. Inspection and maintenance procedures.

Training includes video review, classroom discussion, and regular update training at job sites. The training program is evaluated at least annually by the program coordinator for continued effectiveness.

At job sites, foremen shall provide the following training:

A. Hazard instruction.
B. Explanation why engineering controls may not be immediately feasible.
C. Discussion of proper respirator types for particular jobs and the capabilities and limitations of each.
D. Periodic instruction and training in respirator use.
E. Detailed instructions on respirator maintenance.
F. Fit and leak testing.
G. Safety and occupational health managers shall provide instructions and demonstrations of respirator wear, adjustment, and fitting methods.
H. Before initial use and after any model change, the respirator wearer shall be fitted, leakage tests shall be performed, and the face piece of the face seal shall be tested under similar conditions to its usage purpose. This may involve qualitative or quantitative fit testing depending on the specific requirements of 29 CFR 1910.134.
I. The user shall conduct positive and negative pressure tests each time the respirator is worn to ensure satisfactory fit and valve function.

IX. Record Keeping
The following records are maintained by respirator program coordinator at the J.T. Thorpe & Son, Inc. offices.

A. The number and type of respirators in use if not disposable.

B. Employee training programs.

C. Inspection and maintenance reports.

D. Medical certification of employee’s ability to wear a respirator under given work conditions.

E. Records of fit testing (employee name; type of test; make, model, and size of respirator; date; and, pass/fail results for qualitative tests or fit factor and record of test results for quantitative tests).
SECTION XVII
EMPLOYEE SAFETY INFORMATION FORM

THIS FORM IS FOR EMPLOYEE SAFETY SUGGESTIONS OR TO REPORT UNSAFE WORK PLACE CONDITIONS OR PRACTICES.

DESCRIPTION OF UNSAFE CONDITION OR PRACTICE

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

CAUSES OR OTHER CONTRIBUTING FACTORS

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

EMPLOYEE’S SUGGESTION FOR IMPROVING SAFETY

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________

YOUR PARTICIPATION IN THIS EFFORT IS IMPORTANT TO OUR SAFETY PERFORMANCE. IN NO CASE WILL ANY RETRIBUTION OCCUR TO EMPLOYEES SUBMITTING SUGGESTIONS OR REPORTS.

EMPLOYEE NAME (OPTIONAL) ________________________________

DATE__________________________

MAIL TO: J. T. THORPE & SON, INC.
1060 HENSLEY STREET
RICHMOND, CALIFORNIA 94801
ATTENTION: MR. MARK C. STUTZMAN
SECTION XVIII
SUPERVISORS SAFETY TRAINING

Purpose:
The Company Safety Training Program for supervisory personnel has five purposes:

1. To ensure all supervisory personnel are implementing corporate safety policies and procedures.
2. To announce changes to the corporate safety policies and procedures.
3. To maintain supervisor skills for safety practices.
4. To discuss program effectiveness and develop better administrative procedures if needed.
5. To review past accidents and the corrective actions taken by supervisory personnel to prevent occurrence.

Schedule & Attendees

Annual supervisor safety training meetings shall be held at the various J.T. Thorpe & Son, Inc. locations. Minutes of the meetings and topics discussed shall be sent to Manpower/Safety Managers and Regional Safety Managers of the company. These safety training meetings will be held at least once a year.

Meeting attendees shall be project manager, site engineers and job foremen. The meetings shall be chaired by the Manpower/Safety Manager of Regional Safety Manager. Two-week advance notification of scheduled meetings is required. All attendees shall have the opportunity to submit discussion topics.

Standing Topics

Hazard Communication Program:

All engineers and site Foremen shall annually attend a refresher training program.

Respirator Program:

All engineers and site foremen shall annually attend a refresher training meeting on the company respirator program.

The annual meeting shall include a standing agenda not limited to the following:

1. Changes in the J.T. Thorpe & Son, Inc. program or procedures.
2. Review of job site safety audit findings that need corrective action.
3. Status of the J.T. Thorpe & Son, Inc. accident record for the year. Discussion of measures identified by the accident investigation performed to prevent recurrence.

Records of these meetings will be maintained by the local Manpower /Safety Manager or Regional Safety Manager.
SECTION XIX
HAZARD COMMUNICATION SYSTEM

Purpose

The J. T. Thorpe & Son, Inc. Hazard Communication Program is designed to do the following:

1. Identify potentially hazardous substances used by the company and at job sites.
2. Identify effective controls to ensure that J. T. Thorpe & Son, Inc. employees, or sub-contractor employees, are not harmed by substances or materials.
3. Maintain records of all Safety Data Sheets (SDS) of products used by the company. A central master list of the chemicals, along with a binder of the SDS shall be kept at both the J. T. Thorpe & Son, Inc. offices.
4. Develop an employee training program to complement the J. T. Thorpe & Son, Inc. Hazard Communication Program, including knowledge of SDS’s and the specific hazards and controls to be followed for material at particular job sites.

Administration

Doyle Tyree is the Corporate Hazardous Communication Program Coordinator. Neal Garcia, John Towning, Dave Decker, Robert Byrd, Chris Craner and Ryan Hieneman are responsible for the implementation of the program at J. T. Thorpe & Son, Inc.’s office locations.

Hazard Communication System

The Project Manager is responsible for insuring that all applicable and required SDS are sent to a job site as part of the job book or work order. These job books and work orders are available for all employees on the job site.

The job Foreman is responsible for ensuring the availability of proper SDS’s for materials at the site. The Foreman shall immediately call the local J. T. Thorpe & Son, Inc. office and contact the local office contact for missing SDS’s. A subsequent review will determine why the SDS’s did not get to the job and appropriate corrective action shall be taken.

Record Keeping

Two main binders shall be maintained at each of the J. T. Thorpe & Son, Inc. locations for records.

Master list - This is a listing of all chemicals and materials used by the Company, and includes the name of the material and its supplier. If new materials or suppliers are used, the list will be updated.

Safety Data Sheets Binder - This is a cumulative Safety Data Sheets record for all materials listed in the "Master List" binder. The binder will be available to all employees.

Other records maintained at both J. T. Thorpe & Son, Inc. offices include a listing of all employees, indicating the date of their annual update training and records showing job site review of the SDS for all materials used at the site.

Job Site Pre-Planning

The Project Manager, as a part of the bid process, shall identify the following and incorporate it into the job book or work order.
1. All materials used by the company that require an SDS.

2. Hazardous materials that may be present at the job site and the responsible party at the plant for providing material orientation.

3. J.T. Thorpe & Son, Inc. employees, as well as subcontractors present at the job site and working for the company, who must be trained on the data in the SDS.

**Labeling**

No formal labeling program shall be established, because the company does not repackaging materials at corporate yards or at job sites.

**List of Hazardous Chemicals**

The “Truck Driver’s Report and Materials List” serves as the onsite list of hazardous chemicals that are required by the Standard.

**Training Program**

**Initial Orientation:**

All J. T. Thorpe & Son, Inc. employees shall undergo an orientation on the J. T. Thorpe & Son, Inc. hazard communication program using a specially designed video training program.

Specific materials used shall be discussed and the location of the master list and Safety Data Sheets binder shall be disclosed. Records of the data and attendees shall be given to the hazardous communication coordinator.

**Job Site Training**

Before the job start, the Foreman shall conduct the initial orientation for all employees of the materials to be used along with a complete review of the data on the SDS. Training should be documented and retained, and should include a brief description of the training and the trainer’s name.

In addition, specific information provided at the plant on the hazardous materials present at the site will be reviewed.

Safety training records indicating attendees, along with listings of materials covered (both J. T. Thorpe & Son, Inc. and plant data), will be sent to the Hazardous Communication Program Coordinator.

**Supervisors Training**

Foremen and engineers shall attend the annual Initial Orientation training program.

On a quarterly basis, as part of the supervisors’ safety training meetings, new materials, along with corresponding SDS, shall be reviewed.
SECTION XX
INITIAL TRAINING OUTLINE

I. INTRODUCTION
   a.) Reasons for Training
      2. Employee welfare.
   b.) Description of the Standard Requirements.
      1. Safety Data Sheets (available to employees).
      2. Labeling requirements (all containers—even small).
      3. A written program (available to employees).
      4. Information to employees.
      5. Current training.

II. INFORMATION TO EMPLOYEES
   a.) Location of posted information.
      1. List of standard requirements.
      2. List of what operations involve hazardous chemicals.
      3. List of locations where data sheets and copies of the program can be found.

III. SAFETY DATA SHEETS
    a.) Locations
    b.) Explain how to read and understand data sheets.
       1. Use a properly completed data sheet as an outline or transfer it to slides.
    c.) Describe TLV, PEL, and TWA.

IV. CHEMICALS IN THE WORK AREA, THE HAZARDS, LEVEL DETECTION, AND HOW EMPLOYEES CAN PROTECT THEMSELVES
   a.) Chemical Name
      1. Hazards
         a. Flammable?
         b. Reactive?
         c. Toxic on contact?
         d. Toxic by inhalation?
         e. Cancer suspect?
         f. Reproductive problems?
         g. Irritating?
         h. Causes burns?
         i. Other hazards?
      2. How can the presence of the chemical be detected if it is toxic?
         a. In the air.
         b. On body parts or on the skin.
         c. What level of the chemical is hazardous?
         d. What symptoms indicate overexposure?
      3. How does the employer prevent overexposure?
         a. Monitoring air.
         b. Ventilation.
c. Personal protective equipment available.
d. Medical surveillance.
e. Mechanized processes to avoid contact.

4. What personal protective measures should be taken by the employee?
   a. Equipment for normal use.
   b. Equipment for a foreseeable emergency.
   c. How to obtain equipment.
   d. Instructions on the use of the equipment.

V. DESCRIBE THE LABELING PLAN FOR ALL CHEMICALS IN THE PLANT
   a. Who will ensure labels are affixed?
   b. What are the employees’ responsibilities?
   c. Who can be called if an improperly labeled container is discovered?
   d. What, if any, disciplinary action will be taken against violators of the rules?
   e. How to refer to the data sheet after reading the label.

VI. DESCRIBE FORESEEABLE EMERGENCIES AND HOW EMPLOYEES CAN PROTECT THEMSELVES
   a. Describe possible emergencies like tank leaks or overheated machinery.
   b. Describe measures employees should take, e.g., evacuation or personal protective equipment.

   NOTE: Repeat the above for each foreseeable emergency.

VII. SUMMARIZE THE COMPANY PLAN AND WHERE THE EMPLOYEE CAN LOOK FOR INFORMATION
    a. Labels.
    b. Data sheets.
    c. Who can answer further questions?
SECTION XXI
EMPLOYEE ACCESS TO EXPOSURE AND MEDICAL RECORDS

OSHA requires J.T. Thorpe & Son, Inc. to preserve and make accessible Records of Employee Exposure and Medical Records, within 15 days of request, to a current employee, a former employee, or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents, and their representatives, for examination and copying. It requires the company to retain “Exposure Records” for 30 years, and “Medical Records” for the length of employment plus 30 years.

OSHA defines an “Employee Exposure Record” as:

- Environmental (workplace) monitoring or measuring, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained.
- Biological monitoring results that directly assess the absorption of a toxic substance or harmful physical agent by body systems (but not its biological effect), excluding alcohol or drugs.
- Safety Data Sheets
- In the absence of other records, a record such as a chemical inventory or any other record which reveals the identity of a toxic substance or harmful physical agent and where and when it was used.

Employees must be provided the following information when hired and at least annually thereafter:

- The existence, location, and availability of any records covered by this section;
- The person responsible for maintaining and providing access to records; and
- Each employee’s rights of access to these records.

The required information will be included in the Company’s training programs.
SECTION XXII
PROCESS SAFETY MANAGEMENT PROGRAM/PRE-JOB PLANNING

EMPLOYER PROCESS SAFETY INFORMATION

Each refinery, chemical plant, or other operation that has the potential for catastrophic release of toxic, reactive, flammable or explosive chemicals, are governed by the Occupational Safety and Health Administration (OSHA and in the State of California, CAL/OSHA) regulations, known as Process Safety Management, (PSM). OSHA is responsible for insuring that the PSM safety procedures are implemented.

One of the requirements of the PSM safety regulations is that our customers advise J. T. Thorpe & Son, Inc. of the unique hazards involved in the operations of their plants. Our customer’s PSM programs will identify the site-specific safety procedures that must be followed by JTT when working in these various plants and what our employees must do in the event of an emergency.

It is the responsibility of J.T. Thorpe & Son, Inc. management to develop safety systems that will result in our customers meeting their requirements under PSM, to ensure J.T. Thorpe & Son, Inc.’s employees follow all safety procedures required by our customer, and to implement safety procedures and programs that meet all of the PSM safety requirements. This program outlines how this will be accomplished.

SITE SPECIFIC PROCESS SAFETY ORIENTATION PROGRAM

When necessary, J.T. Thorpe & Son, Inc. safety management shall develop a job-specific safety orientation program, in addition to J.T. Thorpe & Son, Inc.’s standard safety training, to specifically address the hazards, controls, and emergency procedures provided and required by “our customer.”

The J.T. Thorpe & Son, Inc. Project Manager is responsible for identifying all PSM training requirements of our customer. The local J.T. Thorpe & Son, Inc. Manpower/Safety Manager is responsible to ensure the training is performed.

The local J.T. Thorpe & Son, Inc. Manpower/Safety Manager will ensure that all employees assigned to work at a PSM-regulated plant are qualified in their craft and trained in the safety aspects of the refractory demolition and installation process.

Once the J.T. Thorpe & Son, Inc. worker has been deemed qualified in their craft, the initial orientation for PSM-type operations will occur. J.T. Thorpe & Son, Inc. management must ensure that employees fully understand and will follow the PSM safety procedures that are covered in the training.

The J.T. Thorpe & Son, Inc. IIPP and the J.T. Thorpe & Son, Inc. Safety Program address the safety training needs involved in the J.T. Thorpe & Son, Inc. operations. This training information can be found in the JTT Safety Program in Section 3, “Training Summary,” and pages 26-34 of the J.T. Thorpe & Son, Inc. IIPP.

The initial safety training for J.T. Thorpe & Son, Inc. employees to work in a PSM-regulated plant will include, but not be limited to, the following:

- J.T. Thorpe & Son, Inc. workers attending any general PSM safety training, such as BATC or RSO, required for various refineries or chemical plants in a specific area.
- The site-specific safety training of the customer.
- Any area-specific safety training required by the customer, related to the area of the plant J.T. Thorpe & Son, Inc. will be working in.
- All permitting systems and site-specific Safety Data Sheets information will be incorporated into the J.T. Thorpe & Son, Inc. code of Safe Practices training to be completed on the site.

Our customer’s program will discuss the following:

- Potential fire, explosion, and possible toxic chemical release hazards.
• Process Hazard Analysis.
• Safety training requirements.
• The customer’s site-specific emergency action plan.
• Work permits including hot work and confined space entry.
• Incident investigation.
• Compliance audits.

J.T. Thorpe & Son, Inc. will confirm that all of our workers have attended all customer-required PSM training through the maintenance of records. Any other site-specific safety training that may affect J.T. Thorpe & Son, Inc. Personnel will be included in this orientation package and recordkeeping.

**J.T. THORPE & SON, INC. SITE MANAGEMENT SAFETY ORIENTATION**

The J. T. Thorpe & Son, Inc. safety management and the managing site crew shall review the “customized” safety orientation program for the unit. In addition, J.T. Thorpe & Son, Inc. management must ensure that the following site-specific safety requirements are reviewed and understood by each J.T. Thorpe & Son, Inc. worker, prior to their starting work on this site:

• Fire, explosion, and toxic release hazards.
• Permit requirements.
• SDS for materials involved in the process.
• SDS for materials to be installed by J.T. Thorpe & Son, Inc.
• Lockout/tag out requirements.
• Hot work requirements of the unit.

The pre-planning process shall also review other contractor operations in the area of our work. Hazards associated with other contractor’s work will be identified. This information will also be included in the J.T. Thorpe & Son, Inc. site safety orientation.

The “unique” hazards created by J.T. Thorpe & Son, Inc. work will be identified in the J.T. Thorpe & Son, Inc. work order. The J.T. Thorpe & Son, Inc. Project Manager will present this information to our customer prior to starting the job. If additional site-specific safety procedures are needed, they will be incorporated into the J.T. Thorpe & Son, Inc. J.T. Thorpe & Son, Inc. orientation process.

**INITIAL START-UP**

**General Training**

Before starting a job, J.T. Thorpe & Son, Inc. site management shall confirm the following:

• J.T. Thorpe & Son, Inc. J.T. Thorpe & Son, Inc. workers have received all required J.T. Thorpe & Son, Inc. training on general hazards and safety procedures for our job.
• Records of the training sessions have the specific data of training, subjects covered, and the signature of the trainer.

This training will be reinforced on a daily basis as a part of the J.T. Thorpe & Son, Inc. Pre-Job Hazard Analysis program (see section VIII, page 25 of the IIPP).

Safety audits will be performed to ensure compliance with this program (see section VII, page 23 of the IIPP).

**Initial Orientation Safety Records**

All records of training shall be maintained on the site. These records shall be made available when requested by the "Employer." These complete training records shall also be maintained at the local J.T. Thorpe & Son, Inc. regional office.
Site-Specific Safety Orientation

Any process that may create a hazardous condition to Company employees or other workers shall be identified before construction and reviewed with the customer and any affected contractors. Proper controls shall be identified at this meeting.

Site-Specific Safety Hazards Relating to J.T. Thorpe & Son, Inc. Construction

Any process that may create a hazardous condition to Company employees or other workers shall be identified before construction and reviewed with the "Employer" and any affected contractor. Proper controls shall be identified at this meeting.

JOB DURATION

Ongoing Training

Safety training meetings shall be held at least daily for all shifts worked. This training shall consist of Pre-Job Hazard Analysis (JHA) meetings held prior to the start of work (see page 24 of the IIPP). JHA meetings shall be held for all major job processes performed each day. Weekly “toolbox” safety meetings will also be held. Topics of the “toolbox meetings” shall be issues that relate to the work being performed on the project (see page 9 of the IIPP). Additional safety training meetings shall be held, if needed.

Safety Inspections

Regular safety inspections using the J.T. Thorpe & Son, Inc. safety inspection format shall be performed. Weekly inspections shall be performed by the J.T. Thorpe & Son, Inc. Project Engineer and documented using the J.T. Thorpe & Son, Inc. safety audit form. Daily inspections shall be performed by J.T. Thorpe & Son, Inc. Foreman on the job. Unscheduled and unannounced safety inspections shall be performed by J.T. Thorpe & Son, Inc. safety management personnel.

Unique Hazard Identification and Notification Program

The J.T. Thorpe & Son, Inc. site management team shall advise the “Employer’s” representative of unique or unusual hazardous conditions considered during the pre-job analysis phase. The purpose of this is to agree upon the proper safety procedures to be followed by J.T. Thorpe & Son, Inc. personnel, other contractors, or the “Employer’s” personnel, that may be affected by the operation.

Incident Investigations

Any incident defined as a close call, first aid injury, medical injury, lost time case, or death shall be investigated by J.T. Thorpe & Son, Inc. site management and reviewed by J.T. Thorpe & Son, Inc. safety management personnel. The standard accident investigation is outlined on pages 17-21 of the IIPP. Copies of these records shall be maintained on the site with the originals kept at the J.T. Thorpe & Son, Inc. regional office.

Trade Secret Information

J.T. Thorpe & Son, Inc. will train all of their workers on the need to recognize that operations and products within the refineries and chemical plants may be trade secrets, and that employees must respect the confidentiality of this information—specifically, this data cannot be shared with anyone outside of the customer’s operation.
SECTION XXIII
ENVIRONMENTAL PROGRAM

J.T. Thorpe & Son, Inc. management recognizes its responsibility to conduct its business in an environmentally responsible manner. J.T. Thorpe & Son, Inc. follows all requirements with regards to air quality, water quality, waste management, and chemical safety.

J.T. Thorpe & Son, Inc. normal operations on the projects do not create environmental hazards. J.T. Thorpe & Son, Inc. will follow all procedures established by customers with regards to hazardous material handling and disposal of refractory debris and general waste.

J.T. Thorpe & Son, Inc. advises its workers of these site-specific requirements as a part of its Job Hazardous and Analysis/training program, which is performed daily.

J.T. Thorpe & Son, Inc. also has an initial orientation program that covers the general information regarding Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Emergency Planning an Community Right to Know act (EPCRA); Toxic Substances and Control Act (TSCA); and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The Environmental Awareness handbook, published by Coastal Training Technologies Corporation, is used as an outline and information resource for this orientation training.
SECTION XXIV
MANUAL LIFTING

Introduction
Occasionally, it will be necessary for employees to lift heavy items such as: boxes, cement bags, heavy tools, etc.

Purpose
JTT workers are expected to use the proper methods of lifting and handling in order to protect against injury.

Procedure
Before manual lifting is performed, a pre-job hazard assessment must be completed. The assessment must consider:

1. The object’s size, bulk and weight
2. Whether mechanical lifting equipment is required
3. Whether two-man lift is required (where the use of lifting equipment is impractical or not possible)
4. Whether vision is obscured while carrying and
5. The walking surface and path where the object is to be carried

JTT will train workers on proper lifting techniques and the avoidance of musculoskeletal injuries and will include:

1. General principles of ergonomics
2. Recognition of hazards and injuries
3. Methods and procedures for early reporting of injuries

If necessary due to hazards present at a specific jobsite, JTT will also conduct site-specific training on safe lifting and work practices, hazards, and controls.

When necessary for the job, applicable lifting equipment including but not limited to dollies, hand trucks, lift-assist devices, jacks, carts, and hoists will be provided for employees, the use of which is enforced by supervision. Other engineering controls such as conveyors, lift tables, and work station design will be taken into consideration whenever practicable.

Should an incident arise due to improper lifting, JTT will conduct its investigation in accordance with the procedure set forth in Section 6 of this IIPP program, including documentation of the incident and incorporation of the investigation findings into work procedures whenever necessary to prevent future injuries.

Responsibilities
As part of this program, responsible supervisory employees will be responsible for periodically evaluating work areas and employees’ work techniques to assess the potential for and prevention of injuries. New operations should be evaluated to engineer out hazards before work processes are implemented using the pre-job safety analysis procedure set forth in Section VIII.
SECTION XXV
WORKING ALONE

Introduction

Though the element of risk will never be totally eliminated while performing any job function whether it involves working alone or not, JTT recognizes its responsibilities and duties to undertake job functions in the most knowledgeable and safe manner, thus minimizing the possibility of misfortune so far as is reasonably practicable.

Purpose

The purpose and goals of JTT's Working Alone policy is to:

- Ensure the safety, health and welfare of JTT workers
- Assess working alone situations to determine the conditions or circumstances that may pose a hazard(s), and attempt to reduce the probability of such occurrences
- Provide a of means of securing assistance in the event of injury or other misfortune

Procedures

1. Hazard assessments will include an evaluation of the risk of working alone, and should identify control measures in order to minimize the risk associated with working alone.

2. An effective means of communication should be established at all times between the lone employee and designated check, such as the lone worker carrying a cellular phone or other type of electronic monitoring device while working alone.

3. Individuals working alone must be monitored at regular intervals, or the lone workers must contact the designated supervisor at pre-determined intervals based on determinations made in the risk assessment. Each job will have a responsible person, such as the Engineer/Project Manager or Safety Coordinator and the job Foreman, who will be responsible for establishing contact with lone workers, and must check in with the lone workers at regular intervals. A backup form of communication in the event that the primary correspondence is unavailable as well as documentation including employee status at the check in intervals must also be established and maintained.

Emergencies

In the event that a worker working alone does not respond, JTT employees will follow the procedure set forth in JTT’s Emergency Action Plan and any additional site-specific emergency response plans set forth by the client.