

Lines of Inquiry
Assessment, Appraisal,
Operational Readiness Review,
and Accident Investigation

Technical Research and Analysis Center
SCIENTECH, Inc.
1690 International Way
Idaho Falls, Idaho 83402

March 1996

SCIE-DOE-01-TRAC-07-96



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Appraisal,
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and
Accident Investigation**

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INTRODUCTION

The major focus of an assessment or appraisal for auditing purposes, or a general review of operational readiness is on the review of facility performances and documentation. These reviews help the observer to gain a comprehensive overview of facility operating and management policies.

A systematic approach to accident investigation broadens the scope of an investigation by encouraging a logical and orderly collation of information for the final investigation report. This final reports can thereby clarifying and justifying recommendations for corrective actions.

This document provides general lines of inquiry to aid in both of the above processes, and is structured in a checklist format. It is further broken down by specific discipline areas and their sub-disciplines. By using definitive lines of inquiry, repetitive questioning is decreased and assessment, appraisal, and investigative tasks are more expedient.

This document is divided into two parts:

Part I - Assessment, appraisal and operational readiness review lines of inquiry.

Part II - Accident investigation lines of inquiry.

It is beyond the scope of this document to provide inquiries that encompass all aspects of an organization's operation. Therefore, the inquiries contained herein are designed to prompt a reviewer to seek additional information or data.

PART I

**LINES OF INQUIRY
FOR
APPRAISAL, ASSESSMENT AND OPERATIONAL READINESS REVIEW**

SITE/FACILITY SPECIFIC INFORMATION

Facility Name and Location:

Person Contacted: _____ Date: _____

Area/Building: _____ Time: _____

Person(s) Interviewed:

(Include addresses and phone numbers)

Person(s) Conducting Inquiry:

(Include addresses and phone numbers)

Date: _____ Time: _____

ADMINISTRATION

Management Practices and Documentation

- Are there clearly written task statements assigning responsibility to the management organization? Yes_____ No_____
- Have task statements been distributed and communicated throughout the organization? Yes_____ No_____
- Have the task statements been implemented? Yes_____ No_____
- Are there methods in effect for measuring line management performance effectiveness? Yes_____ No_____
- Does the line organization have authority for safety programs? Yes_____ No_____
- Does the line organization have responsibility for safety programs? Yes_____ No_____
- Does the line organization have accountability for safety programs? Yes_____ No_____
- Is safety performance a factor in the selection and promotion of managers? Yes_____ No_____
- Are formal career development programs available for line management? Yes_____ No_____
- Is management training structured to meet the systematic approach to training (SAT) standards? Yes_____ No_____
- Is management training designed to enhance job performance capabilities? Yes_____ No_____
- Explain discrepancies:

Policies & Procedures Regarding Occupational Safety & Health Issues

- Are policies, standards, and procedural documents developed and implemented? Yes_____ No_____
- Are policies, standards, and procedures:
 - ____ Posted and readily available to all employees? Yes_____ No_____
 - ____ Communicated to the affected personnel? Yes_____ No_____
 - ____ Kept current? Yes_____ No_____
 - ____ Properly implemented? Yes_____ No_____
- Do variance procedures exist to process those policies, standards, and procedures that cannot be implemented? Yes_____ No_____
- Are policies, standards, and procedures reviewed annually? Yes_____ No_____
- Are deficient policies, standards, and procedures revised in a timely manner? Yes_____ No_____
- Explain discrepancies:

Compliance Assessment

- Are administrative procedures written and implemented to assess ES&H compliance requirements? Yes_____ No_____
- Does the responsibility for regulatory compliance assessment reside in one functional discipline (to preclude redundancy of effort)? Yes_____ No_____
- When areas of non-compliance are identified are measures taken to remedy non-conformance? Yes_____ No_____
- Does company comply with the occupational safety and health programs and requirements prescribed by OSHA? Yes_____ No_____
- Does company comply with the DOE contract safety clause? Yes_____ No_____
- Does company comply with requisite Federal, state, and local codes, standards, regulations, and DOE Orders? Yes_____ No_____
- Is management aggressively involved in an occupational safety program? Yes_____ No_____

- Does management demonstrate, by vigor and example, their interest in enhancing the occupational safety program? Yes _____ No _____
- Do documents exist to demonstrate management's participation in regulatory compliance? Yes _____ No _____
- Are occupational safety reports routinely furnished to management
If yes, is management responsive to these reports? Yes _____ No _____
- Are occupational safety decisions made at an appropriate level of management? Yes _____ No _____
- Is operational control of the occupational safety program maintained at a high-level of management? Yes _____ No _____
- Does there exist an executive safety committee that is appropriately staffed and active? Yes _____ No _____
- Are management controls and decisions regarding occupational safety documented? Yes _____ No _____
- Has a method been developed to transmit occupational safety issue information throughout the organization? Yes _____ No _____
- Does management distribute requisite compliance information to affected disciplines throughout the organization? Yes _____ No _____
- Are communication channels from occupational safety and health staff vertically and horizontally adequate? Yes _____ No _____
- Explain discrepancies:
-
-

Conduct of Operations

- Have policies and procedures been written to meet the requirements specified in DOE Order 5480.19, Conduct of Operations? Yes _____ No _____
- Has a Conduct of Operations program been implemented throughout the site/facility? Yes _____ No _____
- Has each facility adopted a graded approach to meeting the requirements of 5480.19? Yes _____ No _____
- Has each facility documented it's compliance with 5480.19? Yes _____ No _____
- Has each facility documented areas of non-applicability with 5480.19 and justifications for why these areas do not apply? Yes _____ No _____
- Has a chain of command been established and implemented for personnel reporting? Yes _____ No _____
- Has a system of determining document hierarchy been developed and implemented? Yes _____ No _____
- Has a safety performance monitoring system been established? Yes _____ No _____
- Has an environmental monitoring system been established? Yes _____ No _____
- Has a self-assessment monitoring system been established? Yes _____ No _____
- Are workers and supervisors accountable for operating performance? Yes _____ No _____
- Are first line supervisors and upper level management required to attend management training at frequent intervals? Yes _____ No _____
- Are shift rotations conducted in a manner that ensures incoming supervision or operating personnel are apprised of work area issues? Yes _____ No _____
- Are job aids posted at work stations where multiple task performances are required? Yes _____ No _____
- Explain discrepancies:
-
-

General Employee

- Are employee notifications and information postings displayed in a prominent location that is accessible by all employees? Yes _____ No _____
- Are emergency evacuation diagrams displayed in appropriate areas within employee's workplace? Yes _____ No _____
- Are emergency evacuation drills performed on a quarterly basis, or as required? Yes _____ No _____
- Are new employees "walked" through the emergency evacuation routes? Yes _____ No _____
- Are warning and information signs posted where appropriate for:
 - ____ Room capacities? Yes _____ No _____
 - ____ Floor loading? Yes _____ No _____
 - ____ X-ray exposure? Yes _____ No _____
 - ____ Microwave exposure? Yes _____ No _____
 - ____ Other harmful radiation or substance exposures? Yes _____ No _____
- Is the employee concerns program regarded by employees as significant and vital? Yes _____ No _____
- Is the employee concerns program supported by upper management? Yes _____ No _____

Explain discrepancies:

Training, Qualification, Certification

- Is training structured to meet the systematic approach to training (SAT) standards? Yes _____ No _____
- Are employees trained on job/task hazards; HAZCOM, HAZMAT, laser safety, energetic materials handling, etc. in accordance with compliance requirements? Yes _____ No _____
- Does the organization have a formal safety training program for all employees? Yes _____ No _____
- If yes, is this safety training implemented throughout the organization? Yes _____ No _____
- Is specific safety training, relating to areas of need, defined by line management? Yes _____ No _____
- Is the quality and extent of the safety/operations training adequate to ensure safe operations within the facility? Yes _____ No _____
- Is testing performed at the completion of training to ensure comprehension and retention of course content? Yes _____ No _____
- Is MORT-based Accident Investigation training provided for persons who may be required to serve on an accident investigation board? Yes _____ No _____
- Is Root Cause Analysis training provided for those who routinely perform root cause analysis on accidents or incidents? Yes _____ No _____
- Are qualification programs available to personnel performing highly specialized job tasks? Yes _____ No _____
- Are certified training programs provided in accordance with compliance standards? Yes _____ No _____
- Is refresher training provided as required? Yes _____ No _____
- Are employees provided with General Employee Training (GET) annually or as mandated? Yes _____ No _____

Explain discrepancies:

ENVIRONMENTAL, SAFETY & HEALTH
Safety

- Does safety staff have direct communication link with upper level management? Yes _____ No _____
- Is the safety manager apprised of future changes and modifications to plant/facility? Yes _____ No _____
- Does safety staff report to a sufficiently high level in the organization's management? Yes _____ No _____
- Does the safety manager have a high experience and educational level for the position? Yes _____ No _____
- Are there clearly written task statements assigning responsibility to safety staff? Yes _____ No _____
- Does the safety staff have authority for safety programs? Yes _____ No _____
- Does the safety staff have responsibility for safety programs? Yes _____ No _____
- Does the safety staff have accountability for safety programs? Yes _____ No _____
- Are staff members considered competent by operations personnel? Yes _____ No _____
- Are the safety staff members technically qualified? Yes _____ No _____
- Is the liaison between safety staff and other ES&H functions satisfactory? Yes _____ No _____
- Is the coordination between safety staff and line organizations satisfactory? Yes _____ No _____
- Are safety staff personnel of quality and quantity to perform, acceptably, their respective functions? Yes _____ No _____
- Are principle organizational changes anticipated by staff and effectively implemented? Yes _____ No _____
- Are changes reflected in staffing plans? Yes _____ No _____
- Explain discrepancies:

Environmental & Health

- Does the ES&H organization report to senior management through a line that clearly indicates no conflict of interest with other organizational functions? Yes _____ No _____
- Are high experience and educational levels required to assume the position of ES&H manager? Yes _____ No _____
- Is it expected that this person will exhibit a high degree of interest in the safety organization? Yes _____ No _____
- Are communications good between the ES&H manager, operations safety (OS) manager, and senior management? Yes _____ No _____
- Explain discrepancies:

Medical
Physical Analysis

- Are employees required to have a pre-employment physical examination? Yes _____ No _____
- Is there a hospital, clinic, or infirmary, equipped to provide medical care, in proximity of the workplace? Yes _____ No _____
- If a hospital or first aid facility is not in proximity of the workplace, is at least one employee, on each shift, currently qualified to render emergency first aid? Yes _____ No _____
- Are emergency phone numbers posted in a conspicuous area of the workplace? Yes _____ No _____
- Are medical personnel readily available for advice and consultation on matters of employee health? Yes _____ No _____
- Are first aid kits readily available in the workplace? Yes _____ No _____
- Are first aid kits routinely inspected by a physician, approved and the approval documented, indicating that the contents are adequate for a specific area of work? Yes _____ No _____
- Are employees physical capacities assessed prior to being assigned to jobs requiring heavy work? Yes _____ No _____

Are employees instructed in the proper procedure for lifting heavy objects? Yes_____ No_____

Are employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to adverse reactions? Yes_____ No_____

Explain discrepancies:

Medical

Medical Records and Documentation

Are employee medical records and records of exposures to hazardous substances or harmful physical agents maintained in a current status? Yes_____ No_____

Are records being maintained in accordance with required laws? (Some records must be maintained for at least 40 years) Yes_____ No_____

Explain discrepancies:

Medical

In vivo Monitoring

Have in vivo monitoring facilities been constructed to provided for whole body count analysis of persons with possible exposures to radiological contaminants? Yes_____ No_____

Are employee in vivo monitoring records documented and maintained in accordance with company policies and procedures? Yes_____ No_____

Explain discrepancies:

Hazard/Risk Assessment

Are the existence of high risk operations communicated to senior management? Yes_____ No_____

Has a site/facility hazard/risk analysis been performed and documented? Yes_____ No_____

If yes, has the hazard/risk analysis been approved at the appropriate level of management? Yes_____ No_____

Are operating permits and records up-to-date for such items as: _____elevators? Yes_____ No_____

_____air pressure tanks? Yes_____ No_____

_____liquefied petroleum gas tanks? Yes_____ No_____

_____Other, define: _____ Yes_____ No_____

Explain discrepancies:

EMERGENCY OPERATIONS
Emergency Response

Has a facility been established, equipped, and staffed to adequately respond to emergency response operations? Yes _____ No _____

Have all Emergency Operations Center (EOC) personnel been thoroughly trained in the functional tasks they are to assumed during an emergency? Yes _____ No _____

Have EOC personnel been cross-trained in the various EOC tasks to ensure continuity? Yes _____ No _____

Are quarterly emergency drills performed? Yes _____ No _____

Are emergency drills designed to address specific site hazards? Yes _____ No _____

Has an employee accountability system been developed and tested? Yes _____ No _____

Explain discrepancies:

Warning & Alarm Systems (On/Off Site)

Have off-site warning and notification systems been developed and tested? Yes _____ No _____

Are all off-site support organizations included in the quarterly drills? Yes _____ No _____

Have on-site and off-site warning and alarm systems been installed to maximize coverage? Yes _____ No _____

Are all warning and alarm systems tested periodically (i.e., following a severe electrical storm in which electrical power may has been interrupted)? Yes _____ No _____

Explain discrepancies
 : _____

Auxiliary Emergency Systems

Has a mobile emergency communications center been instituted? Yes _____ No _____

Are all critical systems on battery or generator backup systems? Yes _____ No _____

Have provisions been made to "go to manual" response operations if all electronic communications fail? Yes _____ No _____

Has the "manual" response operating system been tested? Yes _____ No _____

Explain discrepancies:

Communication Center

Are communication specialists appropriately trained and qualified in their specific tasks? Yes _____ No _____

Are communication specialists trained to assume the EOC's communication tasks in an emergency? Yes _____ No _____

Are notification systems tested quarterly or as required (following a severe electrical storm in which the electrical power may have been interrupted)? Yes _____ No _____

Are notification and warning systems tested to ensure maximum coverage? Yes _____ No _____

Explain discrepancies:

SAFEGUARDS & SECURITY

Security Education/OPSEC Training

Does the General Employee Training (GET) program include Security and OPSEC Educational Awareness training? Yes _____ No _____

Do new employees receive Security and OPSEC Educational Awareness training? Yes _____ No _____

Are Safeguards and Security and OPSEC posters displayed prominently and updated quarterly? Yes _____ No _____

Do the Classification Officer and Derivative Classifiers receive task specific training and refresher training as required? Yes _____ No _____

Explain discrepancies:

Protective Force Training

Are security force personnel trained in their specific job task responsibilities prior to receiving a firearm and assuming a post? Yes _____ No _____

Are security personnel required to attend HAZCOM training to acquaint them with the known hazards and hazardous materials and substances present at the facility? Yes _____ No _____

Are security personnel assigned to gate posts, briefed on matters that may affect their post assignments (outside visitor entry, changes in delivery vehicles or schedules, etc.)? Yes _____ No _____

Are duty roster assignments equitable across the force? Yes _____ No _____

Are security personnel required to maintain physical conditioning to ensure peak stamina and agility for their assigned duties? Yes _____ No _____

Is a physical fitness facility equipped and readily available to all security force personnel? Yes _____ No _____

Are security personnel tested annually on their ability to perform physical maneuvers common to their profession (running, squatting, crouching, climbing, etc)? Yes _____ No _____

Are security personnel who are assigned firearms, required to meet maximum practice sessions at a firing range? Yes _____ No _____

Are these practice session monitored by a supervisor or armorer? Yes _____ No _____

Explain discrepancies:

Firearm Safety

Does the Security Department have an armorer assigned solely to the maintenance, repair, and distribution of firearms? Yes _____ No _____

Are officers prohibited from adding to, removing from, or in any way altering the original manufactured design of any firearm in their possession? Yes _____ No _____

Are firearm qualification standards enforced and within the bounds of procedures and regulatory requirements? Yes _____ No _____

Are officers given adequate firing range time to practice prior to final qualification? Yes _____ No _____

Explain discrepancies:

Aviation Safety
Pilot Training, Certification, and Qualification

- | | |
|--|--------------------|
| Are pilot(s) current with respect to their first class medical training? | Yes _____ No _____ |
| Are pilot(s) certified in ATP? | Yes _____ No _____ |
| Are pilot(s) current with check ride requirements in FAR Part 135? | Yes _____ No _____ |
| Are pilot(s) current in an aircraft being operated per FAR Part 135? | Yes _____ No _____ |
| Are training records current for pilot in command (PIC)? | Yes _____ No _____ |
| Are logs maintained of individual pilot's time in assigned aircraft? | Yes _____ No _____ |
| Is pilot in command (PIC), familiar with local airport(s) conditions? | Yes _____ No _____ |
| Has PIC performed >100 landings / takeoffs from airports >4000 feet above sea level? | Yes _____ No _____ |
| Does pilot(s) maintain an aircraft deficiency list? | Yes _____ No _____ |
| Are pilot(s) instructed in procedures for landing and takeoff behind both larger and smaller aircraft? | Yes _____ No _____ |
| Explain discrepancies: | |

Aviation Safety
Co-Pilot Training, Certification and Qualification

- | | |
|---|--------------------|
| Are co-pilot(s) instrument rated? | Yes _____ No _____ |
| Are co-pilot(s) current with check ride requirements in FAR Part 135? | Yes _____ No _____ |
| Are co-pilot(s) current in an aircraft being operated per FAR Part 135? | Yes _____ No _____ |
| Are training records current for co-pilot(s)? | Yes _____ No _____ |
| Are co-pilot familiar with local airport(s) conditions? | Yes _____ No _____ |
| Are co-pilot(s) current with respect to their first class medical training? | Yes _____ No _____ |
| Are co-pilot(s) certified in ATP? | Yes _____ No _____ |
| Is a log maintained of individual co-pilot's time in assigned aircraft? | Yes _____ No _____ |
| Are co-pilot(s) instructed in procedures for landing and takeoff behind both larger and smaller aircraft? | Yes _____ No _____ |
| Explain discrepancies: | |

Specific Information Regarding an Aircraft

- | | |
|---|--------------------|
| Is aircraft within weight and balance criteria? | Yes _____ No _____ |
| Is aircraft start/stop distance calculated? | Yes _____ No _____ |
| Are aircraft instruments checked prior to each flight to ensure normal operation? | Yes _____ No _____ |
| Explain discrepancies: | |

Flight /Flight Plan

- | | |
|--------------------------------|--------------------|
| Are flight plan(s) filed with: | |
| ___ FAA? | Yes _____ No _____ |
| ___ Owner of aircraft? | Yes _____ No _____ |
| ___ None? | Yes _____ No _____ |

Are company/pilot communications:

____ Formal?

Yes _____ No _____

____ Informal?

Yes _____ No _____

Are emergency procedures explained to passengers prior to flight?

Yes _____ No _____

Explain discrepancies:

Aircraft Maintenance

Is aircraft current with maintenance requirements per FAR?

Yes _____ No _____

Are aircraft engines, close to maintenance overhaul time, inspected prior to flights?

Yes _____ No _____

Are aircraft maintenance personnel qualified and certified to perform their assigned maintenance duties?

Yes _____ No _____

Explain discrepancies:

GENERAL WORK ENVIRONMENT
General Work Area

- Are all work sites clean and orderly? Yes _____ No _____
- Are work surfaces kept dry? Yes _____ No _____
- Are appropriate means taken to ensure the surfaces are slip-resistant? Yes _____ No _____
- Are all spilled materials or liquids cleaned up immediately? Yes _____ No _____
- Are combustible scrap, debris, and waste materials stored safely prior to removal from the work site? Yes _____ No _____
- Are these waste materials removed promptly or as soon as practicable? Yes _____ No _____
- Are accumulations of combustible dust routinely removed from elevated surfaces including the overhead structure of buildings, etc.? Yes _____ No _____
- Is combustible dust cleaned up with a vacuum system to prevent the dust from going into suspension? Yes _____ No _____
- Are measures taken to prevent metallic or conductive dusts from entering or accumulating on or around electrical enclosures or equipment? Yes _____ No _____
- Are covered metal waste cans used for oily or paint-soaked waste? Yes _____ No _____
- Are all oil and gas fired devices equipped with flame failure controls that will prevent flow of fuel if pilots or main burners are inoperable? Yes _____ No _____
- Are paint spray booths, dip tanks, etc., cleaned regularly? Yes _____ No _____
- Are the minimum number of toilets and washing facilities provided? Yes _____ No _____
- Are all toilets and washing facilities clean and sanitary? Yes _____ No _____
- Are all toilet and washing facilities accessible by handicapped employees? Yes _____ No _____
- Are all work areas adequately illuminated? Yes _____ No _____
- Are pits and floor openings covered or otherwise guarded? Yes _____ No _____
- Are means provided for quick drenching or flushing of the eyes and body, in areas where corrosive liquids or materials are handled? Yes _____ No _____
- Explain discrepancies:
-
-

Walkways/Working Surfaces

- Are aisles and passageways kept clear? Yes _____ No _____
- Are aisles and walkways marked as appropriate? Yes _____ No _____
- Are wet surfaces covered with non-slip materials? Yes _____ No _____
- Are holes in floors, sidewalks, or other walking surfaces repaired properly, covered, or otherwise made safe? Yes _____ No _____
- Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operated? Yes _____ No _____
- Are materials or equipment stored in such a way that sharp projections will not interfere with the walkway? Yes _____ No _____
- Are spilled materials cleaned up immediately? Yes _____ No _____
- Are changes in direction or elevations readily identifiable and marked appropriately? Yes _____ No _____

Are aisles and walkways arranged so employees will not be subjected to potential hazards such as moving or operating machinery, welding operations, or similar operations? Yes _____ No _____

Is adequate headroom provided for the entire length of an aisle or walkway? Yes _____ No _____

Are standard guardrails provided where aisles or walkway surfaces are elevated more than 30 inches above any adjacent floor or the ground? Yes _____ No _____

Are bridges provided over conveyors and similar hazards? Yes _____ No _____

Explain discrepancies:

Floor and Wall Openings

Are floor openings guarded by a cover, a guardrail, or equivalent, on all sides (except at entrances to stairways or ladders)? Yes _____ No _____

Are toe-boards installed around the edges of permanent floor openings (in areas where persons may pass below the opening)? Yes _____ No _____

Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds? Yes _____ No _____

Are glass panes in windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use? Yes _____ No _____

Are gates or similar type covers over floor openings such as floor drains, of such design that foot traffic or rolling equipment will not be affected by the grate spacing? Yes _____ No _____

Are unused portions of service pits and pits not actually in use, either adequately covered or protected by guardrails or equivalent? Yes _____ No _____

Are manhole covers, trench covers, and similar covers, plus their supports, designed to carry a truck rear axle load of at least 20,000 pounds when located in roadways and subject to vehicle traffic? Yes _____ No _____

Are floor or wall openings in fire resistive construction, provided with doors or covers compatible with the fire rating of the structure and provided with self closing features where appropriate? Yes _____ No _____

Explain discrepancies:

Stairs and Stairways

Are standard stair rails or handrails installed on all stairways having four or more risers? Yes _____ No _____

Are all stairways at least 22 inches wide? Yes _____ No _____

Do stairs have at least a 6 feet 6 inches overhead clearance? Yes _____ No _____

Do stairs angle no more than 50 degrees and no less than 30 degrees? Yes _____ No _____

Are stairs of hollow-pan type treads and landings filled to noising level with solid material? Yes _____ No _____

Are step risers, on stairs uniform from top to bottom with no riser spacing greater than 7 1/2 inches? Yes _____ No _____

Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant? Yes _____ No _____

Are stairway handrails located between 30 inches and 34 inches above the leading edge of stair treads? Yes _____ No _____

- Do stairway handrails have at least 1 ½ inches of clearance between the handrails and the wall or surface they are mounted on? Yes _____ No _____
- Are stairway handrails capable of withstanding a load of 200 pounds, applied in any direction? Yes _____ No _____
- Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic? Yes _____ No _____
- Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway? Yes _____ No _____
- Is the vertical distance between stairway landings limited to 12 feet or less? Yes _____ No _____
- Explain discrepancies:
-
-

Elevated Surfaces

- Are signs posted, where appropriate, showing the elevated surface load capacity? Yes _____ No _____
- Are surfaces that are elevated more than 30 inches above the floor or ground, provided with standard guardrails? Yes _____ No _____
- Are all elevated surfaces, beneath which people or machinery could be exposed to falling objects, provided with standard 4 inch toe-boards? Yes _____ No _____
- Is a permanent means of ingress and egress provided to elevated storage and work surfaces? Yes _____ No _____
- Is required headroom provided where necessary? Yes _____ No _____
- Is material on elevated surfaces piled, stacked, or racked in a manner to prevent it from tipping, falling, collapsing, rolling, or spreading? Yes _____ No _____
- Explain discrepancies:
-
-

Egress (Exit)

- Are all exits marked with an exit sign and illuminated by a reliable light source? Yes _____ No _____
- Are the directions to exits, not immediately apparent, marked with visible signs? Yes _____ No _____
- Are doors, passageways, or stairways, that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT", "TO BASEMENT", "STOREROOM", etc.? Yes _____ No _____
- Are exit signs provided with the word "EXIT" in lettering at least 5 inches high and the stroke of the lettering at least ½ inches wide? Yes _____ No _____
- Are exit doors side-hinged? Yes _____ No _____
- Are all exits kept free of obstructions? Yes _____ No _____
- Are at least two means of egress provided from elevated platforms, pits, or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable, or explosive substances? Yes _____ No _____
- Are there sufficient exits to permit prompt escape in case of an emergency? Yes _____ No _____
- Are special precautions taken to protect employees during construction and repair operations? Yes _____ No _____
- Is the number of exits from each floor of a building and the number of exits from the building itself, appropriate for the building occupancy load? Yes _____ No _____
- Are exit stairways, which are required to be separated from other parts of a building, enclosed by at least 2-hour fire-resistive construction in buildings more than four stories in height, and not less than 1-hour fire-resistive construction elsewhere? Yes _____ No _____

Where ramps are used as part of required exiting from a building, is the ramp slope limited to 1 foot vertical and 12 feet horizontal? Yes _____ No _____

Where exits will be through frame-less glass doors, glass exit doors, glass storm doors, etc., is the glass tempered and does it meet the safety requirements for human impact? Yes _____ No _____

Explain discrepancies:

Exit Doors

Are doors which are required to serve as exits designed and constructed so that the way of exit travel is obvious and direct? Yes _____ No _____

Are windows which could be mistaken for exit doors, made inaccessible by means of barriers or railings? Yes _____ No _____

Are exit doors operable from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied? Yes _____ No _____

Is a revolving, sliding, or overhead door prohibited from serving as a required exit door? Yes _____ No _____

Where panic hardware is installed on a required exit door, will it allow the door to open by applying a force of 15 pounds of pressure in the direction of the exit traffic? Yes _____ No _____

Are doors on cold storage rooms (freezers, etc.), provided with an inside release mechanism which will release the latch and open the door even if it is padlocked or otherwise locked on the outside? Yes _____ No _____

Where exit doors open directly onto a street, alley, or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic? Yes _____ No _____

Are doors that swing in both directions and are located between rooms where there is frequent traffic, provided with viewing panels in each door? Yes _____ No _____

Explain discrepancies:

Machine Guarding

Does a training program exist to instruct employees on safe methods of machine operation? Yes _____ No _____

Is there adequate supervision to ensure that employees are following safe machine operating procedures? Yes _____ No _____

Is there a regular program of safety inspection of machinery and equipment? Yes _____ No _____

Are all machinery and equipment kept clean and properly maintained? Yes _____ No _____

Is sufficient clearance provided around and between machinery to allow for safe operation, set up, servicing, material handling, and waste removal? Yes _____ No _____

Is equipment and machinery securely placed and anchored, when necessary, to prevent tipping or other movement that could result in personal injury? Yes _____ No _____

Is there a power shut-off switch on each machine within reach of the operator's position? Yes _____ No _____

Can electric power to each machine be locked out for maintenance, repair, or security? Yes _____ No _____

Are non-current-carrying metal parts on electrically operated machines bonded and grounded? Yes _____ No _____

- Are foot-operated switches guarded or arranged in such a manner to prevent accidental actuation by personnel or falling objects? Yes _____ No _____
- Are manually operated valves and switches that control the operation of equipment and machines clearly identified and readily accessible? Yes _____ No _____
- Are all emergency stop buttons colored red? Yes _____ No _____
- Are all pulleys and belts, operating within 7 feet of the floor or working level, properly guarded? Yes _____ No _____
- Are all moving chains and gears properly guarded? Yes _____ No _____
- Are splash guards, mounted on machines that use coolant, engineered to prevent the coolant from reaching employees? Yes _____ No _____
- Are methods provided to protect the operator and other employees in the machine area from hazards created at points of operation, in-going nip points, rotating parts, flying chips, and sparks? Yes _____ No _____
- Are machinery guards secure and arranged in such a manner that they do not offer a hazard in their use? Yes _____ No _____
- Are special hand-tools are used for placing and removing materials? Yes _____ No _____
- Do these special hand-tools protect the operator's hands? Yes _____ No _____
- Are guards in place on revolving drum, barrel, and container operations, required to be guarded by an enclosure that is interlocked with the drive mechanism, so revolution cannot occur unless the guard enclosure is in place? Yes _____ No _____
- Do arbors and mandrels have firm and secure bearing, and are they free from play? Yes _____ No _____
- Are provisions in place to prevent machines from automatically starting when power is restored after a power failure or shutdown? Yes _____ No _____
- Are machines constructed in such a manner that they are free of excessive vibration when the largest size tool is mounted and run at full speed? Yes _____ No _____
- If machinery is cleaned with compressed air, is the air pressure controlled and are personal protective equipment and other safeguards utilized to protect operators and other workers from eye and body injury? Yes _____ No _____
- When operating within 7 feet of the floor, are fan blades protected with a guard that has openings no larger than 1/2 inch? Yes _____ No _____
- Are ripping saws equipped with anti-kick back devices and spreaders? Yes _____ No _____
- Are radial arm saws so arranged that the cutting head will gently return to the back of the table when released? Yes _____ No _____
- Explain discrepancies:
-
-

Environmental Controls

- Are all work areas properly illuminated? Yes _____ No _____
- Are all work areas properly ventilated for the work being performed? Yes _____ No _____
- If forklifts and other vehicles are used in buildings, or enclosed areas, are carbon monoxide levels kept below maximum acceptable concentrations? Yes _____ No _____
- Have steps been taken to use engineering controls to reduce excessive noise levels? Yes _____ No _____
- Are caution labels and signs used to warn of asbestos? Yes _____ No _____
- Is vacuuming, with appropriate equipment, used whenever possible rather than blowing or sweeping dust? Yes _____ No _____
- Are grinders, saws, and other machines that produce respirable dusts, vented to an industrial collector or central exhaust system? Yes _____ No _____
- Are all exhaust ventilation systems designed and operating properly for the application? Yes _____ No _____

- Is personal protective equipment provided, used, and maintained wherever required? Yes_____ No_____
- Are restrooms and washrooms kept clean and sanitary? Yes_____ No_____
- Is all water provided for drinking, washing, and cooking, potable? Yes_____ No_____
- Are all outlets identified and clearly marked for water that is not suitable for drinking? Yes_____ No_____
- Are employee's physical capabilities assessed prior to being assigned to jobs requiring heavy work? Yes_____ No_____
- Are employees instructed in the proper procedures for lifting heavy objects? Yes_____ No_____
- Where heat is a problem, have all fixed work areas been provided with spot cooling or air conditioning? Yes_____ No_____
- Are employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to adverse reactions? Yes_____ No_____
- Are employees assigned to work on streets and roads where they are exposed to the hazards of traffic, required to wear bright colored (traffic orange) warning vests? Yes_____ No_____
- Is proper shielding in place on equipment that produces ultra-violet radiation? Yes_____ No_____
- Explain discrepancies:

Ventilation Systems for Harmful Substances

- Is the volume and velocity of air in each exhaust system sufficient to gather and control dusts, fumes, mists, vapors, or gases to be controlled, and to convey them to an acceptable point of disposal? Yes_____ No_____
- Are exhaust inlets, ducts, and plenums designed, constructed, and supported to prevent collapse or failure of any part of the system? Yes_____ No_____
- Are clean-out ports or doors provided at intervals not to exceed 12 feet in all horizontal runs of exhaust ducts? Yes_____ No_____
- Where two or more different operations are being controlled through the same exhaust system, could the combination of substances being controlled constitute a fire, explosion, or chemical reaction hazard in the duct? Yes_____ No_____
- Is adequate makeup air provided to the work environment where exhaust systems are open? Yes_____ No_____
- Is the source point for makeup air located in such a manner that only clean, fresh air, free of contaminants, will enter the work environment? Yes_____ No_____
- Where two or more ventilation systems are serving a work area, is their operation such that one will not offset the functions of the other? Yes_____ No_____
- Explain discrepancies:

Painting/Spraying Booth Operations

- Is adequate ventilation assured before spray operations are started? Yes_____ No_____
- Is mechanical ventilation provided when spraying operations are performed in enclosed areas? Yes_____ No_____
- When mechanical ventilation is provided during spraying operations, is it so arranged that it will not circulate the contaminated air? Yes_____ No_____
- Are spray area kept free of hot surfaces? Yes_____ No_____

- Is the spray area at least 20 feet from flames, sparks, operating electrical motors, and other ignition sources? Yes _____ No _____
- Are portable lamps, used to illuminate spray areas, suitable for use in a hazardous location? Yes _____ No _____
- Is approved respiratory equipment provided and used, where appropriate, during spraying operations? Yes _____ No _____
- Do solvents, used for cleaning, have a flash point to 100° F or more? Yes _____ No _____
- Are fire control sprinkler heads kept clean and free from obstructions? Yes _____ No _____
- Are "NO SMOKING" signs posted in spray areas, paint rooms, paint booths, and paint storage areas? Yes _____ No _____
- Is the spray area kept clean of combustible residues? Yes _____ No _____
- Are spray booths constructed of metal, masonry, or other substantial noncombustible material? Yes _____ No _____
- Are spray booth floors and baffles made of noncombustible and easily cleaned material? Yes _____ No _____
- Is an infrared drying apparatus kept out of the spray area during spraying operations? Yes _____ No _____
- Is the spray booth completely ventilated before using the drying apparatus? Yes _____ No _____
- Is the electric drying apparatus properly grounded? Yes _____ No _____
- Are lighting fixtures for spray booths located outside of the booth? Yes _____ No _____
- Are interior lighting fixtures sealed within clear panels? Yes _____ No _____
- Are the electric motors of exhaust fans placed outside booths or ducts? Yes _____ No _____
- Are belts and pulleys located inside the booth fully enclosed? Yes _____ No _____
- Do ducts have access doors to allow cleaning? Yes _____ No _____
- Are all drying spaces adequately ventilated? Yes _____ No _____

Explain discrepancies:

MAINTENANCE OPERATIONS

Portable Ladders

- Are all ladders maintained in good condition to ensure:
 - ___ Joints between steps and side rails are true? Yes ___ No ___
 - ___ Hardware and fittings are securely attached? Yes ___ No ___
 - ___ Moveable parts are operating freely without binding or undue play? Yes ___ No ___
- Are non-slip safety feet provided on each ladder? Yes ___ No ___
- Are non-slip safety feet provided on each metal or rung ladder? Yes ___ No ___
- Are ladder rungs and steps free of grease and oil? Yes ___ No ___
- Are the rungs of ladders uniformly spaced at 12 inches, center to center? Yes ___ No ___
- Is it prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked, or guarded? Yes ___ No ___
- Is it prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height? Yes ___ No ___
- Are employees instructed to face the ladder when ascending or descending? Yes ___ No ___
- Are ladders with missing rungs taken out of service? Yes ___ No ___
- Are employees prohibited from using ladders that are broken, missing steps, missing rungs or cleats, have broken side rails, or other faulty equipment? Yes ___ No ___
- Are employees instructed not to use the top step of an ordinary stepladder as a step? Yes ___ No ___
- When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder always extend at least 3 feet above the elevated surface? Yes ___ No ___
- Is it required that when portable rung or cleat type ladders are used, the base is so placed that slipping will not occur, or it is lashed or otherwise held in place? Yes ___ No ___
- Are portable metal ladders legibly marked with signs reading "CAUTION" - DO NOT USE AROUND ELECTRICAL EQUIPMENT" or equivalent wording? Yes ___ No ___
- Are employees prohibited from using ladders as guys, braces, skids, gin poles, or for other than their intended purpose? Yes ___ No ___
- Are employees instructed to only adjust extension ladders while standing at the base (not while standing on the ladder or from a position above the ladder)? Yes ___ No ___
- Are all ladders inspected regularly for damage? Yes ___ No ___

Explain discrepancies:

Hand Tools and Equipment

- Are all tools and equipment (both company and employee owned) used by employees at their workplace in good condition? Yes ___ No ___
- Are hand tools such as chisels, punches, etc., which develop mushroomed heads during use, reconditioned or replaced as necessary? Yes ___ No ___
- Are broken or fractured handles on hammers, axes, and similar equipment replaced promptly? Yes ___ No ___
- Are worn or bent wrenches replaced regularly? Yes ___ No ___
- Are appropriate handles used on files and similar tools? Yes ___ No ___
- Are employees made aware of the hazards caused by faulty or improperly used hand tools? Yes ___ No ___

Are appropriate safety glasses, face shields, etc., used while using hand tools or equipment which might produce flying materials or be subject to breakage? Yes _____ No _____

Are jacks checked periodically to assure they are in good operating condition? Yes _____ No _____

Are tool handles wedged tightly in the head of all tools? Yes _____ No _____

Are tool cutting edges kept sharp so the tool will move smoothly without binding or skipping? Yes _____ No _____

To prohibit tampering or degradation, are tools stored in a dry, secure location? Yes _____ No _____

Are eye and face protection provided and used when driving hardened or tempered studs or nails? Yes _____ No _____

Explain discrepancies:

Portable (Power) Tools and Equipment

Are grinders, saws and similar equipment provided with appropriate safety guards? Yes _____ No _____

Are power tools fitted with the manufacturer's recommended shields, guards, or attachments? Yes _____ No _____

Are portable circular saws equipped with guards above and below the base shoe? Yes _____ No _____

Are circular saw guards checked to ensure they are not wedged up, thereby leaving the lower portion of the blade unguarded? Yes _____ No _____

Are rotating or moving parts of equipment guarded to prevent physical contact? Yes _____ No _____

Are all cord-connected, electrically-operated tools and equipment effectively grounded or of the approved double insulated type? Yes _____ No _____

Are effective guards in place over belts, pulleys, chains, sprockets, on equipment such as concrete mixers, air compressors, etc.? Yes _____ No _____

Are portable fans provided with full guards or screens that have openings 1/2 inch or less? Yes _____ No _____

Is hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task? Yes _____ No _____

Are ground-fault circuit interrupters (GFCI) provided on all temporary electrical 15 and 20 ampere circuits, used during periods of construction? Yes _____ No _____

Are pneumatic and hydraulic hoses on power-operated tools checked regularly for deterioration or damage? Yes _____ No _____

Explain discrepancies:

Abrasive Wheel Equipment Grinders

Are work rests used and kept adjusted to within 1/8 inch of the wheel? Yes _____ No _____

Are adjustable tongues on the top side of the grinder used and kept adjusted to within 1/4 inch of the wheel? Yes _____ No _____

Do side guards cover the spindle, butt, and flange and 75% of the wheel diameter? Yes _____ No _____

Are bench and pedestal grinders permanently mounted? Yes _____ No _____

Are goggles or face shields always worn when grinding? Yes _____ No _____

Are the maximum RPM ratings of each abrasive wheel compatible with the RPM ratings of the grinder motors? Yes _____ No _____

Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or another permanent wiring method? Yes _____ No _____

Does each grinder have an individual on and off control switch? Yes_____ No_____

Before new abrasive wheels are mounted, are they visually inspected and ring (audible) tested? Yes_____ No_____

Are electrically operated grinders effectively grounded? Yes_____ No_____

Are dust collectors and powered exhausts attached to grinders being used in operations that produce large amounts of dust? Yes_____ No_____

Are splash guards mounted on grinders that use coolant to prevent the coolant from reaching employees? Yes_____ No_____

Is cleanliness maintained around grinders? Yes_____ No_____

Explain discrepancies:

Powder Actuated Tools

Are employees who operate powder-actuated tools trained in their use and have in their possession a valid operators card? Yes_____ No_____

Are powder-actuated tools stored in their own locked container when not being used? Yes_____ No_____

Are warning signs conspicuously posted when a tool is being used that reads, "POWDER-ACTUATED TOOL, IN USE"? Yes_____ No_____

Are powder-actuated tools left unloaded until they are actually ready to be used? Yes_____ No_____

Are powder-actuated tools inspected for obstructions or defects each day before use? Yes_____ No_____

Do powder-actuated tool operators have and use appropriate personal protective equipment such as hard hats, safety glasses/goggles, safety shoes, and ear protectors? Yes_____ No_____

Explain discrepancies:

Welding, Cutting, and Brazing

Are only authorized and trained personnel permitted to use welding, cutting, or brazing equipment? Yes_____ No_____

Do operators have a copy of the appropriate operating instructions and are they directed to follow them? Yes_____ No_____

Are compressed gas cylinders regularly examined for obvious signs of defect, deep rust, or leakage? Yes_____ No_____

Is care used in handling and storage of cylinders, safety valves, relief valves, etc., to prevent damage? Yes_____ No_____

Are precautions taken to prevent the mixture of air or oxygen with flammable gases, except at a burner or in a standard torch? Yes_____ No_____

Are only approved apparatus such as torches, regulators, pressure-reducing valves, acetylene generators, and manifolds used? Yes_____ No_____

Are cylinders kept away from sources of heat? Yes_____ No_____

Are warning signs posted that read: "DANGER - NO SMOKING, MATCHES, OR OPEN LIGHTS" or equivalent? Yes_____ No_____

Unless secured on special trucks, are regulators removed and valve-protection caps put in place before moving cylinders? Yes_____ No_____

Are liquefied gases stored and shipped valve-end up with valve covers in place? Yes_____ No_____

Are provisions made to ensure a fuel-gas cylinder valve is never cracked near a source of ignition? Yes_____ No_____

- Before a regulator is removed, is the valve closed and gas released from the regulator? Yes _____ No _____
- Are gas hoses color coded as follows:
- ___ Red - Acetylene (and other fuel-gas) hoses? Yes _____ No _____
- ___ Green - Oxygen hoses? Yes _____ No _____
- ___ Black - Inert gas hoses? Yes _____ No _____
- Are pressure reducing regulators used only for the gas and pressures for which they are intended? Yes _____ No _____
- Is open circuit (no load) voltage on arc welding and cutting machines as low as possible and not in excess of the recommended limits? Yes _____ No _____
- Under wet conditions, are automatic controls used for reducing no load voltage? Yes _____ No _____
- Is the grounding of machine frames and safety ground connections of portable machines checked periodically? Yes _____ No _____
- Are electrodes removed from the holders when not in use? Yes _____ No _____
- Is it required that electric power to a welder be shut off when no one is in attendance? Yes _____ No _____
- Is suitable fire extinguishing equipment available for immediate use? Yes _____ No _____
- Are welders forbidden to coil or loop the welding electrode cable around their bodies? Yes _____ No _____
- Are wet machines thoroughly dried and tested before being used? Yes _____ No _____
- Are work and electrode lead cables frequently inspected for wear and damage, and replaced when needed? Yes _____ No _____
- Do connectors on cable lengths have adequate insulation? Yes _____ No _____
- Are shields used to confine heat, sparks, and slag when the object to be welded cannot be moved and fire hazards cannot be removed? Yes _____ No _____
- Are fire watchers assigned when welding or cutting is performed in locations where a serious fire might develop? Yes _____ No _____
- Are combustible floors kept wet, covered by damp sand, or protected by fire-resistant shields? Yes _____ No _____
- When floors are wet down, are personnel protected from possible electrical shock? Yes _____ No _____
- During welding operations on metal walls, are precautions taken to protect combustibles on the opposite side of the wall? Yes _____ No _____
- Before hot work is begun, are used drums, barrels, tanks, and other containers so thoroughly cleaned that no substances remain that could explode, ignite, or produce toxic vapors? Yes _____ No _____
- Do supplied eye protection helmets, hand shields, and goggles meet appropriate standards? Yes _____ No _____
- Are employees protected with personal protective equipment and shielding from exposure to hazards created by welding, cutting, or brazing operations? Yes _____ No _____
- Are checks made for adequate ventilation in and around welding or cutting operations? Yes _____ No _____
- Are environmental monitoring tests performed when working in confined spaces? Yes _____ No _____
- Are procedures in place for quick removal of welders from confined spaces in the event of an emergency? Yes _____ No _____
- Are the following work control documents provided and properly completed:
- ___ Management & Safety Review Work Procedures? Yes _____ No _____
- ___ Job Safety Analysis? Yes _____ No _____
- ___ Safe Work Permit? Yes _____ No _____
- ___ Special Safety Work Permit? Yes _____ No _____

___ Material Safety Data Sheet (MSDS)?

Yes ___ No ___

___ Hot Work Permit?

Yes ___ No ___

Explain discrepancies:

Compressed Gas Cylinders

Are cylinders, with a water weight capacity over 30 pounds, equipped with an apparatus for connecting a valve protector device, or connecting a collar or recess to protect the valve?

Yes ___ No ___

Are cylinders legibly marked to clearly identify the gas contained?

Yes ___ No ___

Are compressed gas cylinders stored in areas that are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs, or high temperature lines?

Yes ___ No ___

Are cylinders located or stored in areas where they will not be damaged by passing or falling objects or be subject to tampering by unauthorized persons?

Yes ___ No ___

Are cylinders stored or transported in a manner that prevents them from creating a hazard by tipping, falling, or rolling?

Yes ___ No ___

Are cylinders containing liquefied fuel gas, stored or transported in a position so the safety relief device is always in direct contact with the vapor space in the cylinder?

Yes ___ No ___

Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?

Yes ___ No ___

Are all valves closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job?

Yes ___ No ___

Are low pressure fuel-gas cylinders checked periodically for corrosion, general distortion, cracks, or any other defect that might indicate a weakness in the cylinder or render it unfit for service?

Yes ___ No ___

Does the periodic check of low pressure fuel-gas cylinders include a close inspection of the cylinders' bottom?

Yes ___ No ___

Are compressed gas cylinders regularly examined for obvious signs of defect such as deep rusting, or pinhole leaks?

Yes ___ No ___

Is care used in handling and storing cylinders, safety valves, relief valves, etc., to prevent damage?

Yes ___ No ___

Are the cylinders kept away from elevators, stairs, or gangways?

Yes ___ No ___

Is it prohibited to use cylinders as rollers or supports?

Yes ___ No ___

Are empty cylinders appropriately marked and their valves closed?

Yes ___ No ___

Are signs posted near compressed gas cylinders that read: "DANGER - NO SMOKING, MATCHES, OR OPEN LIGHTS"?

Yes ___ No ___

Are gas hoses color coded as follows:

___ Red - Acetylene (and other fuel-gas) hoses?

Yes ___ No ___

___ Green - Oxygen hoses?

Yes ___ No ___

___ Black - Inert gas hoses?

Yes ___ No ___

Are cylinders, cylinder valves, couplings, regulators, hoses, and other apparatus kept free of oily or greasy substances?

Yes ___ No ___

Is care taken not to drop or strike a cylinder?

Yes ___ No ___

Are liquefied gases stored and shipped valve-end up with valve covers in place?

Yes ___ No ___

Are provisions made to ensure a fuel-gas cylinder valve is never cracked near sources of ignition? Yes _____ No _____

Before a regulator is removed, is the valve closed and gas released from the regulator? Yes _____ No _____

Explain discrepancies:

Lockout / Tagout Procedures

Are machinery and equipment that is capable of movement, required to be de-energized or disengaged and blocked or locked-out during cleaning, servicing, adjusting, or setting up operations? Yes _____ No _____

Where the power disconnecting means for equipment does not also disconnect the electrical control circuit:

____ Are the appropriate electrical enclosures identified? Yes _____ No _____

____ Is a means provided to ensure the control circuit can also be disconnected and locked-out? Yes _____ No _____

Is it prohibited to lock-out control circuits in lieu of locking-out main power disconnects? Yes _____ No _____

Are all equipment control valve handles provided with a means for locking-out? Yes _____ No _____

Does the lock-out procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked-out for repairs? Yes _____ No _____

Are the appropriate employees provided with individually keyed personal safety locks? Yes _____ No _____

Are these employees required to keep personal control of their key(s) while they have safety locks in use? Yes _____ No _____

Is it required that only the employee exposed to a hazard, place or remove a safety lock? Yes _____ No _____

Is it required that an employee check the safety of a lock-out by attempting a start-up only after making sure no one is exposed? Yes _____ No _____

Are employees instructed to always push the control circuit stop button prior to re-energizing the main power switch? Yes _____ No _____

Is a means provided for identification of any or all employees who are working on locked-out equipment by their locks and accompanying tags? Yes _____ No _____

Are a sufficient number of accident prevention signs, tags, and safety padlocks provided for all reasonably foreseeable repair emergencies? Yes _____ No _____

When machine operation, configuration, or size requires an operator(s) to leave their control station to install tools to perform another operation, are those elements of the machine that could move if accidentally activated, required to be locked or blocked out separately? Yes _____ No _____

In the event equipment or lines cannot be shut down, locked-out, and tagged, is a safe job procedure established and rigidly followed? Yes _____ No _____

Explain discrepancies:

Confined Space Entry

Are confined spaces thoroughly emptied of all corrosive or hazardous substances, such as acids or caustics, before entry? Yes _____ No _____

Are all lines to a confined space, containing inert, toxic, flammable, or corrosive material, valved off and blanked or disconnected and separated before entry? Yes _____ No _____

- Is it required that all impellers, agitators, or other moving equipment inside confined spaces be locked-out prior to entry? Yes_____ No_____
- Are either natural or mechanical ventilation provided prior to confined space entry? Yes_____ No_____
- Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in a confined space prior to entry? Yes_____ No_____
- Is adequate illumination provided for the work to be performed in a confined space? Yes_____ No_____
- Is the atmosphere in a confined space frequently tested or continuously monitored during conduct of work? Yes_____ No_____
- Is there an assigned safety standby employee outside of a confined space, whose sole responsibility it is to watch the work in progress, sound an alarm, and render assistance? Yes_____ No_____
- Is the standby employee appropriately trained and equipped to handle an emergency? Yes_____ No_____
- Is the standby employee physically capable of rendering assistance in the event of an emergency? Yes_____ No_____
- Is a standby employee or are other employees prohibited from entering the confined space without life-lines and respiratory equipment when there is a question about the cause of an emergency? Yes_____ No_____
- Is approved respiratory equipment required if an atmosphere inside a confined space cannot be made acceptable? Yes_____ No_____
- Is portable electrical equipment used inside a confined space either grounded and insulated, or equipped with ground fault protection? Yes_____ No_____
- Before gas welding or burning is started in a confined space are:
 - ____Hoses checked for leaks? Yes_____ No_____
 - ____Compressed gas bottles forbidden inside confined space? Yes_____ No_____
 - ____Torches lighted only outside of the confined space areas? Yes_____ No_____
 - ____Confined area tested for an explosive atmosphere each time an entry is made with a lighted torch? Yes_____ No_____
- If employees will be using oxygen-consuming equipment such as salamanders, torches, furnaces, etc., in a confined space, is:
 - ____Sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume? Yes_____ No_____
- Whenever combustion-type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure? Yes_____ No_____
- Is each confined space checked for decaying vegetation or animal matter which may produce methane? Yes_____ No_____
- Is each confined space checked for possible industrial waste which could contain toxic properties? Yes_____ No_____
- If the confined space is below the ground and near areas where motor vehicles will be operating, are checks made to ensure vehicular exhaust or carbon monoxide does not enter the space? Yes_____ No_____
- Explain discrepancies:

Compressors and Compressed Air

- Are compressors equipped with pressure relief valves, and pressure gauges? Yes_____ No_____
- Are compressor air intakes installed and equipped that ensure only clean, uncontaminated air enters the compressor? Yes_____ No_____
- Are air filters installed on compressor intakes? Yes_____ No_____

- Are compressors operated and lubricated in accordance with the manufacturer's specifications? Yes _____ No _____
- Are safety devices on compressed air systems checked frequently? Yes _____ No _____
- Before any repair work is done on the pressure system of a compressor, is the pressure bled off and the system locked-out? Yes _____ No _____
- Are signs posted to warn of the automatic starting feature of a compressors? Yes _____ No _____
- Is the belt drive system totally enclosed to provide protection at the front, back, top, and sides? Yes _____ No _____
- Is it strictly prohibited to direct compressed air towards a person? Yes _____ No _____
- Are employees prohibited from using highly compressed air for cleaning purposes? Yes _____ No _____
- If compressed air is used for cleaning off clothing, is the pressure reduced to less than 10 psi? Yes _____ No _____
- When using compressed air for cleaning, do employees wear protective chip guards and personal protective equipment? Yes _____ No _____
- Are safety chains or other suitable locking devices used at couplings of high pressure hose lines where a connection failure would create a hazard? Yes _____ No _____
- Before compressed air is used to empty containers of liquid, is the safe working pressure of the container checked? Yes _____ No _____
- When compressed air is used with abrasive blast cleaning equipment, is the operating valve a type that must be held open manually? Yes _____ No _____
- When compressed air is used to inflate auto tires, is it required that a clip-on chuck and an in-line be preset to 40 psi? Yes _____ No _____
- Is it prohibited to use compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air creates a fire or explosion hazard? Yes _____ No _____

Explain discrepancies:

Compressor Air Receivers

- Are air receivers equipped with a pressure gauge and with one or more automatic, spring-loaded safety valves? Yes _____ No _____
- Is the total relieving capacity of the safety valve capable of preventing pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent? Yes _____ No _____
- Are air receivers provided with a drain pipe and valve located at the lowest point and used for the removal of accumulated oil and water? Yes _____ No _____
- Are compressed air receivers periodically drained of moisture and oil? Yes _____ No _____
- Are all safety valves tested frequently and at regular intervals to determine whether their operating condition? Yes _____ No _____
- Is there a current operating permit used by the Division of Occupational Safety and Health? Yes _____ No _____
- Are the inlets on air receivers and piping systems kept free of accumulated oil and carbonaceous materials? Yes _____ No _____

Explain discrepancies:

Personal Protective Equipment (PPE)

- Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled? Yes_____ No_____
- Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection, respirators, etc.)? Yes_____ No_____
- Where needed for emergency use, are respirators stored in a convenient, clean, dry and sanitary location? Yes_____ No_____
- Are respirators that are intended for emergency use, adequate for the various uses for which they may be needed? Yes_____ No_____
- Is personal protective equipment provided, used, and maintained whenever necessary? Yes_____ No_____
- Are respirators NIOSH approved for their particular application? Yes_____ No_____
- Are respirators regularly inspected, cleaned, sanitized, and maintained? Yes_____ No_____

Explain discrepancies:

Garage Maintenance

- Are employees trained and tested on proficiency in servicing rim wheels safely? Yes_____ No_____
- Where tires are mounted or inflated on a drop center wheel, is a safe practice procedure posted and enforced? Yes_____ No_____
- Where tires are mounted or inflated on wheels with split rims or retainer rings, is a safe practice procedure posted and enforced? Yes_____ No_____
- Does each tire inflation hose have a clip-on chuck with at least 24 inches of hose between the chuck and an in line hand valve and gauge? Yes_____ No_____
- Does the tire inflation control valve automatically shutoff air flow when the valve is released? Yes_____ No_____
- Are restraining devices or barriers in place to withstand maximum force during rim wheel separation? Yes_____ No_____
- Are rim wheel restraints and barriers inspected prior to each day's use? Yes_____ No_____
- Are safe operating procedures in place for servicing multi-piece rim wheels? Yes_____ No_____
- Are safe operating procedures in place for servicing single piece rim wheels? Yes_____ No_____
- Are employees strictly forbidden from taking a position directly over or in front of a tire while it is being inflated? Yes_____ No_____
- Are employees instructed in the proper disposal of used motor oils, lubricants, coolants, and degreasers in accordance with RCRA requirements? Yes_____ No_____

Explain discrepancies:

CONSTRUCTION/HEAVY EQUIPMENT
Hoisting and Rigging - Including Industrial Trucks, Forklifts, Manlifts

Define type crane being inspected:

- | | | |
|--|---|--|
| <input type="checkbox"/> Automatic | <input type="checkbox"/> Gantry | <input type="checkbox"/> Pulpit-operated |
| <input type="checkbox"/> Cab-operated | <input type="checkbox"/> Hot metal handling | <input type="checkbox"/> Remote-operated |
| <input type="checkbox"/> Cantilever Gantry | <input type="checkbox"/> Overhead | <input type="checkbox"/> Semi-operated |
| <input type="checkbox"/> Floor operated | <input type="checkbox"/> Power operated | <input type="checkbox"/> Semi-gantry |
| <input type="checkbox"/> Storage bridge | <input type="checkbox"/> Wall | |

- Is hoisting and rigging equipment owned, operated and maintained by the company? Yes _____ No _____
- Are procedures in place to ensure equipment inspections are performed as follows:
- initial inspection of new or altered cranes? Yes _____ No _____
 - interval inspection of cranes in regular service on "frequent" and "periodic" basis? Yes _____ No _____
 - frequent inspection - daily to monthly? Yes _____ No _____
 - periodic - 1 to 12 month intervals? Yes _____ No _____
- Are procedures in place to ensure a preventive maintenance program has been established based upon manufacturer's recommendations? Yes _____ No _____
- If rerating has been performed, have modifications and supporting structures been tested and approved? Yes _____ No _____
- Are rated load markings clearly stenciled or marked on each side of the crane? Yes _____ No _____
- If crane has more than one hoisting unit, is each hoist marked with the appropriate rated load mark? Yes _____ No _____
- Are rated load markings clearly legible from ground level? Yes _____ No _____
- Are policies and procedures in place to ensure only designated personnel shall be permitted to operate any of the cranes listed above? Yes _____ No _____
- Has the operator been instructed to avoid carrying loads over people? Yes _____ No _____
- Are proper fire extinguishers readily assessable to all crane operators? Yes _____ No _____
- For derricks, are carbon dioxide, dry chemical, or equivalent fire extinguishers kept in immediate vicinity of the derrick? Yes _____ No _____
- Are operators trained on the use and care of fire extinguishers? Yes _____ No _____
- Is crane cab lighting sufficient to enable operator to see clearly to perform his job tasks? Yes _____ No _____
- Are adequate stops provided at the limits of trolley travel? Yes _____ No _____
- Are crane bumpers provided to minimize the force of impact with objects within a cranes travel limits? Yes _____ No _____
- Are overhead electric hoists equipped with a limit device to stop the hook travel at its highest and lowest point of safe travel? Yes _____ No _____
- Will each hoist automatically stop, hold, and load up to 125 percent of its rated load, if its actuating force is removed? Yes _____ No _____
- Are the controls on hoists plainly marked to indicate the direction of travel or motion? Yes _____ No _____
- Are load charts available and utilized to determine net capacity of mobile cranes? Yes _____ No _____
- Are mobile cranes properly leveled with the crane weight off of the tires? Yes _____ No _____
- Are sheaves installed on hoisting ropes to prevent fouling or chafing? Yes _____ No _____
- Are sheaves checked prior to each operation? Yes _____ No _____

- Are slings inspected prior to each operation? Yes_____ No_____
 - Are slings capacity rated in accordance with OSHA Tables N-184-1 thru N-184-20? Yes_____ No_____
 - Are close-fitting guards or other suitable devices installed on hoists to ensure hoist ropes will be maintained in the sheave grooves? Yes_____ No_____
 - Are hoist chains or ropes of sufficient length to handle the full range of movement of an application while still maintaining two full wraps on the drum at all times? Yes_____ No_____
 - Are guards in place at nip points or contact points between hoist ropes and sheaves? Yes_____ No_____
 - Are these guards permanently located within seven feet of the floor, ground or working platform? Yes_____ No_____
 - Are holding brakes inspected prior to each operation? Yes_____ No_____
 - Are cranes (except worm-gear) equipped with control braking means to prevent over speeding? Yes_____ No_____
 - Does the electrical equipment comply with Subpart S of 29 CFR 1910? Yes_____ No_____
 - Are all safety devices, (limit switches, etc.), in good operating condition? Yes_____ No_____
 - Are signal personnel qualified and utilized? Yes_____ No_____
 - Are man-lifts constructed/designed per the DOE Hoisting & Rigging Manual? Yes_____ No_____
 - Are pre-lift procedures in place for lifting personnel on a man-lift as specified in the DOE Hoisting & Rigging Manual followed? Yes_____ No_____
 - Are operators/riggers/signal persons trained and current within the training intervals specified by the DOE Hoisting & Rigging Manual? Yes_____ No_____
 - Are cage-controlled hoists equipped with effective warning devices? Yes_____ No_____
- Explain discrepancies:
-
-

Industrial Truck Operation

- Is substantial overhead protective equipment provided on high lift rider equipment? Yes_____ No_____
 - Is directional lighting provided on each industrial truck that operates in an area with less than 2 foot candles per square foot of general lighting? Yes_____ No_____
 - Does each industrial truck have a warning horn, whistle, gong, or other device which can be clearly heard above the normal noise in the areas where operated? Yes_____ No_____
 - Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when the truck is fully loaded? Yes_____ No_____
 - Will the industrial trucks' parking brake effectively prevent the vehicle from moving when unattended? Yes_____ No_____
 - Are the industrial trucks approved for operation in areas where flammable gases, vapors, combustible dusts, or ignitable fibers may be present in the atmosphere? Yes_____ No_____
 - When an operator releases his grip on the control travel device, are motorized hand and hand/rider trucks designed in a manner that the brakes are applied, and power to the drive motor shuts off? Yes_____ No_____
 - Are industrial trucks with internal combustion engines, that are operated in buildings or enclosed areas, carefully checked to ensure such operations do not cause harmful concentrations of carbon monoxide? Yes_____ No_____
- Explain discrepancies:
-
-

Training and Safety Procedures: Cranes, Hoists, Industrial Trucks

Are employees who will be operating cranes, hoists, or industrial trucks, trained, qualified, and certified to operate the specific equipment? Yes _____ No _____

Are operators/riggers/signal persons trained and current within the training intervals specified by the DOE Hoisting & Rigging Manual? Yes _____ No _____

Are operators instructed and cognizant of the dangers involved in carrying a load over personnel? Yes _____ No _____

Are signal personnel qualified and utilized? Yes _____ No _____

Are the required lift truck operating rules posted in the workplace and enforced? Yes _____ No _____

Are procedures enforced that prohibit the use of chains or rope slings that are kinked or twisted? Yes _____ No _____

Are procedures enforced that prohibit the use of hoist rope or chain wrapped around the load as a substitute for a sling? Yes _____ No _____

Explain discrepancies:

ELECTRICAL SAFETY

Electrical - General

- Does company policy require that compliance with OSHA be met with regard to contract electrical work? Yes_____ No_____
- Are all employees required to report, as soon as practicable, any obvious hazard to life or property observed in connection with electrical equipment or lines? Yes_____ No_____
- Are employees instructed to make preliminary inspections or appropriate tests to determine what conditions exist before starting work on electrical equipment? Yes_____ No_____
- When electrical equipment or lines are to be serviced, maintained, or adjusted, are necessary switches opened, locked-out, and tagged whenever possible? Yes_____ No_____
- Are portable electrical tools and equipment grounded or are they of the double insulated type? Yes_____ No_____
- Are electrical appliances, such as vacuum cleaners, polishers, vending machines, etc., grounded? Yes_____ No_____
- Do extension cords, when in use, have a grounding connector? Yes_____ No_____
- Are multiple plug adapters prohibited? Yes_____ No_____
- Are ground fault circuit interrupters (GFCI) installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations, or excavations are being performed? Yes_____ No_____
- Are all temporary circuits protected by disconnect switches or plug connectors at a junction with permanent wiring? Yes_____ No_____
- Are electrical installations performed in hazardous dust or vapor areas? Yes_____ No_____
- Are exposed wiring and cords with frayed or deteriorated insulation, repaired or replaced promptly? Yes_____ No_____
- Are flexible cords and cables free of splices or taps? Yes_____ No_____
- Are clamps or other securing devices provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc.? Yes_____ No_____
- Are cord jackets securely held in place? Yes_____ No_____
- Are all cord, cable, and raceway connections intact and secure? Yes_____ No_____
- In wet or damp locations, are electrical tools and equipment appropriate for the use or location? Yes_____ No_____
- Is the location of electrical power lines and cables (overhead, underground, under-floor, other side of walls, etc.) determined before digging, drilling, or similar work is begun? Yes_____ No_____
- Are metal measuring tapes, ropes, hand-lines, or similar devices, with metallic thread woven into the fabric, prohibited where they could come in contact with energized parts of equipment or circuit conductors? Yes_____ No_____
- Is the use of metal ladders prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts, equipment, or circuit conductors? Yes_____ No_____
- Are all disconnect switches and circuit breakers labeled to indicate their use or piece of equipment served? Yes_____ No_____
- Are disconnecting switches always opened before fuses are replaced? Yes_____ No_____
- Do interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment, and enclosures? Yes_____ No_____
- Are all electrical raceways and enclosures securely fastened in place? Yes_____ No_____
- Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures? Yes_____ No_____

- Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance? Yes _____ No _____
- Are unused openings in electrical enclosures and fittings (including conduit knockouts) closed with appropriate covers, plugs, or plates? Yes _____ No _____
- Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight fitting covers or plates? Yes _____ No _____
- Are disconnect switches for electrical motors, in excess of two horsepower (hp), capable of opening circuit, without exploding, when the motor is in a stalled condition? Yes _____ No _____
- Is the controlled for each motor, in excess of two hp, rated in horsepower equal to or in excess of the rating of the motor it serves? Yes _____ No _____
- Is low voltage protection provided in the control device of motors driving machines or equipment which could cause probably injury from inadvertent starting? Yes _____ No _____
- Is each motor disconnecting switch or circuit breaker located within sight of the motor control device? Yes _____ No _____
- Is each motor, located within sight of its controller or the controller disconnecting means, capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor? Yes _____ No _____
- Are employees who regularly work on or around energized electrical equipment or lines, instructed in the cardio-pulmonary resuscitation (CPR) methods? Yes _____ No _____
- Are employees prohibited from being alone while working on energized lines or equipment over 600 volts? Yes _____ No _____

Explain discrepancies:

TRANSPORTATION SAFETY

Shipping, Receiving, & Materials Handling

- Is safe clearance maintained in aisles and doorways for through traffic? Yes_____ No_____
- Are aisles designated, permanently marked, and kept clear to allow unhindered passage? Yes_____ No_____
- Are motorized vehicles and mechanized equipment inspected daily or prior to use? Yes_____ No_____
- Are vehicles shut off and brakes set prior to loading or unloading? Yes_____ No_____
- When being stacked for transport, are containers of combustible or flammable materials always separated by dunnage (loose packing material) sufficient to provide stability? Yes_____ No_____
- Are dock boards or bridge plates used when transferring materials between docks, trucks and rail cars? Yes_____ No_____
- Are trucks and trailers secured from movement during loading and unloading operations? Yes_____ No_____
- Are dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading? Yes_____ No_____
- Are hand trucks maintained in a safe operating condition? Yes_____ No_____
- Are chutes equipped with sideboards of sufficient height to prevent the materials being loaded or unloaded from falling off? Yes_____ No_____
- Are chutes and gravity roller sections firmly placed and secured to prevent displacement? Yes_____ No_____
- At the delivery end of the rollers or chutes, are provisions made to brake the movement of the loaded material? Yes_____ No_____
- Are pallets inspected prior to loading or movement? Yes_____ No_____
- To prevent accidental release from a hoist hook, are only hooks with safety latches used when hoisting materials that are secured with slings or load attachments? Yes_____ No_____
- Are measures taken to ensure that secure chains, ropes, chokers, or slings are adequate for a lifting job? Yes_____ No_____
- When hoisting material or equipment, are provisions made to ensure no one will be passing under the suspended loads? Yes_____ No_____
- Are employees who handle hazardous materials or substances trained in HAZCOM and other required hazard training? Yes_____ No_____
- Are Material Safety Data Sheets (MSDS) readily accessible by employees handling hazardous substances? Yes_____ No_____

Explain discrepancies:

Transporting Employees and Materials

- Do employees who operate vehicles on public highways have valid operator licenses? Yes_____ No_____
- When seven or more employees are regularly transported in vans, buses or trucks, is the operator's license appropriate for the class of vehicle being driven? Yes_____ No_____
- Are vans, buses or trucks, that are used regularly to transport employees, equipped with an adequate number of seats and seatbelts? Yes_____ No_____
- When employees are transported by truck, are provisions provided to prevent their falling off of the vehicle? Yes_____ No_____
- Are employee transport vehicles equipped with lamps, brakes, horns, mirrors, windshields, and turn signals that are operational and in good repair? Yes_____ No_____

- Are transport vehicles provided with handrails, steps, stirrups, or similar devices, so placed and arranged that employees can safely mount or dismount? Yes _____ No _____
- Are employee transport vehicles equipped at all times with at least two reflective type flares? Yes _____ No _____
- Is a fully charged fire extinguishers, in good working condition, with at least 4 B:C rating, maintained in each employee transport vehicle? Yes _____ No _____
- When cutting tools or tools with sharp edges are carried in passenger compartments of employee transport vehicles, are they placed in closed boxes or containers which are secured in place? Yes _____ No _____
- Are employees prohibited from riding on top of any load which could shift, topple, or otherwise become unstable? Yes _____ No _____
- Explain discrepancies:

Fueling

- Is it prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running? Yes _____ No _____
- Are fueling operations done in such a manner that the likelihood of spillage will be minimal? Yes _____ No _____
- When spillage occurs during fueling operations, is the spilled fuel washed away completely, evaporated, or are other measures taken to control vapors before restarting the engine? Yes _____ No _____
- Are fuel tank caps replaced and secured before starting the engine? Yes _____ No _____
- In fueling operations, is there always metal contact between the container and the fuel tank? Yes _____ No _____
- Are fueling hoses of a type designed to handle the specific type of fuel? Yes _____ No _____
- Is it prohibited to handle or transfer gasoline in open containers? Yes _____ No _____
- Are open lights, open flames, sparking, or arcing equipment prohibited near fueling or fuel transfer operations? Yes _____ No _____
- Is smoking prohibited in the vicinity of fueling operations? Yes _____ No _____
- Are "NO SMOKING" signs posted in the vicinity of fueling operations? Yes _____ No _____
- Are fueling operations prohibited in buildings or other enclosed areas that are not specifically ventilated for that purpose? Yes _____ No _____
- Where fueling or transfer of fuel is done through a gravity flow system, are the nozzles of the self-closing type? Yes _____ No _____
- Explain discrepancies:

Tire inflation

- Are safe practice procedures posted and enforced in areas where tires are mounted or inflated on a drop center wheel? Yes _____ No _____
- Are safe practice procedures posted and enforced in areas where tires are mounted or inflated on wheels with split rims or retainer rings? Yes _____ No _____
- Do tire inflation hoses have a clip-on chuck with at least 24 inches of hose between the chuck and an in-line hand valve and gauge? Yes _____ No _____
- Do tire inflation control valves automatically shutoff air flow when the valve is released? Yes _____ No _____
- Are tire restraining devices such as a caged, racks, or other effective means used while inflating tires mounted on split rims, or rims using retainer rings? Yes _____ No _____

Are employees strictly forbidden from taking a position directly over or in front of a tire while it is being inflated?

Yes _____ No _____

Explain discrepancies:

Packaging/Placarding/Shipping

Are proper shipping papers completed and approved prior to transport of all materials?

Yes _____ No _____

Are materials properly classified, packaged, marked, labeled, and certified as being in the proper condition for transport?

Yes _____ No _____

Are all vehicle properly placarded in accordance with DOT regulations?

Yes _____ No _____

When transporting radioactive or fissile materials are:

____ radiation and contamination limits properly observed?

Yes _____ No _____

____ radiation and contamination limits information provided on the shipping papers?

Yes _____ No _____

Is packaging identified by model or number?

Yes _____ No _____

Explain discrepancies:

Containment Loss Control

Procedures are in place to remedy a breach of containment of hazardous or radioactive materials while in transport?

Yes _____ No _____

If there is a loss of containment on-site, check those notified:

____ Plant/General Manager?

Yes _____ No _____

____ DOE Field Office Manager?

Yes _____ No _____

____ Safeguards and Security?

Yes _____ No _____

____ Emergency Operations Center?

Yes _____ No _____

____ Shipping?

Yes _____ No _____

____ Transportation?

Yes _____ No _____

____ Receiving?

Yes _____ No _____

If there is a loss of containment off-site, are drivers instructed in the proper notification procedures?

Yes _____ No _____

Has a principal contact or individual telephone number been provided to transportation personnel for use in the event of an emergency?

Yes _____ No _____

If a loss is of a reportable quantity, are procedures in place to notify the National Spill Response Center?

Yes _____ No _____

Have emergency spill response personnel been trained in their respective duties?

Yes _____ No _____

Have spill response personnel participated in drills to test their proficiency?

Yes _____ No _____

Explain discrepancies:

FIRE SUPPRESSION
Loss Controls

- Plant has Watchman Alarm service
- Are local fire departments well acquainted with the facility, its location, and specific hazards contained on the premises? Yes No
- Are fire alarm systems certified and tested annually? Yes No
- Are interior stand pipes and valves inspected on a regular basis and is it noted in the inspection documentation? Yes No
- Are outside fire hydrants flushed at least once a year and also on a routine preventive maintenance schedule? Yes No
- Are fire doors and shutters in good operating condition? Yes No
- Are fire doors and shutters unobstructed and protected against obstructions, including their counterweights? Yes No
- Are fire door and shutter fusible links in place? Yes No
- Are automatic sprinkler system's water control valves, air, and water pressure checked weekly/periodically as required? Yes No
- Are sprinkler heads protected by metal guards against exposure to physical damage? Yes No
- Is maintenance of the automatic sprinkler system assigned to a:
 responsible persons? Yes No
 sprinkler contractor? Yes No
- Are portable fire extinguishers provided in adequate number and type? Yes No
- Are fire extinguishers recharged regularly and is the date of recharge noted on the inspection tag? Yes No
- Are employees instructed periodically in the use of extinguishers and fire protection procedures? Yes No
- Are new employees instructed in the use of fire extinguishers during General Employee Training? Yes No
- Does the company have a volunteer fire brigade comprised of well trained employees? Yes No
- If protection deficiencies exist which affect any part of the property, the prominent deficiencies are:
 sprinkler protection? Yes No
 inadequate water? Yes No
 inadequate internal security? Yes No
 inadequate plant fire brigade? Yes No
- Explain discrepancies:

Flammable and Combustible Materials

- Are combustible scrap, debris, and waste materials (oily rags, etc.) stored in covered metal receptacles? Yes No
- Are these combustibles removed from the work site promptly? Yes No
- Is proper storage practiced to minimize the risk of fire, including spontaneous combustion? Yes No
- Are approved containers and tanks used for the storage and handling of flammable and combustible liquids? Yes No
- Are connections on drums, and on liquid, vapor, and combustible piping tightly secured? Yes No
- Are all flammable liquids kept in closed containers when not in use (parts cleaning tanks, pans, etc.)? Yes No

- Are bulk drums of flammable liquids grounded and bonded to containers during dispensing? Yes _____ No _____
- Do storage rooms for flammable and combustible liquids have explosion-proof lights? Yes _____ No _____
- Do storage rooms for flammable and combustible liquids have mechanical or gravity ventilation? Yes _____ No _____
- Is liquefied petroleum gas stored, handled, and used in accordance with safe practices and standards? Yes _____ No _____
- Are "NO SMOKING" signs posted on liquefied petroleum gas tanks? Yes _____ No _____
- Are liquefied petroleum storage tanks guarded to prevent damage from vehicles? Yes _____ No _____
- Are all solvent wastes, and flammable liquids kept in fire resistant, covered containers until they are removed from the work site? Yes _____ No _____
- Is vacuuming used whenever possible rather than blowing or sweeping combustible dusts? Yes _____ No _____
- Are firm separators placed between containers of combustible or flammable materials, when stacked one upon another, to assure their support and stability? Yes _____ No _____
- Are fuel gas cylinders and oxygen cylinders separated by distance, fire resistant barriers, etc., while in storage? Yes _____ No _____
- Are fire extinguishers selected and provided for in areas specific to their use? Yes _____ No _____
- ____ Class A - Ordinary combustible material fires? Yes _____ No _____
- ____ Class B - Flammable liquid, gas or grease fires? Yes _____ No _____
- ____ Class C - Energized-electrical equipment fires? Yes _____ No _____
- Are appropriate fire extinguishers mounted within 75 feet of outside areas containing flammable liquids? Yes _____ No _____
- Are appropriate fire extinguishers mounted within 10 feet of any inside storage area for such materials? Yes _____ No _____
- Is access to extinguishers free from obstruction or blockage? Yes _____ No _____
- Are all extinguishers fully charged and in their designated place? Yes _____ No _____
- Where sprinkler systems are permanently installed, are the nozzle heads so directed or arranged so water will not be sprayed into operating electrical switch boards and onto electrical equipment parts? Yes _____ No _____
- Are "NO SMOKING" rules enforced in areas of storage, handling, and use of hazardous materials? Yes _____ No _____
- Are "NO SMOKING" signs posted where appropriate in areas where flammable or combustible materials are used or stored? Yes _____ No _____
- Are safety cans, used for dispensing flammable or combustible liquids, at the point of use? Yes _____ No _____
- Are all spills of flammable or combustible liquids cleaned up promptly? Yes _____ No _____
- Are storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying, or atmospheric temperature changes? Yes _____ No _____
- Are storage tanks equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure or intense heat? Yes _____ No _____

Explain discrepancies:

Personnel Protection Fire, Explosion Control Systems (Check those systems in place and operational)

- ____ Employees (other than private fire brigade) ____ Outside Hose Systems
- ____ Explosion Venting Relief ____ Outside Sprinklers, Exposure
- ____ Explosion Suppression System ____ Portable Extinguisher

- | | |
|--|--|
| <input type="checkbox"/> Fixed Extinguishing Systems - Aqueous Film Forming Foam | <input type="checkbox"/> Private Fire Brigade |
| <input type="checkbox"/> Fixed Extinguishing Systems - Chemical Foam | <input type="checkbox"/> Protective Coatings |
| <input type="checkbox"/> Dry Chemical | <input type="checkbox"/> Public Fire Department |
| <input type="checkbox"/> Fixed Extinguishing Systems - CO ₂ | <input type="checkbox"/> Sprinkler System - Hydraulic Designed |
| <input type="checkbox"/> Fixed Extinguishing Systems - Dry Chemical | <input type="checkbox"/> Sprinklers, Directional Water Spray |
| <input type="checkbox"/> Fixed Extinguishing Systems - Halogenated Agent | <input type="checkbox"/> Sprinklers, In-Rack |
| <input type="checkbox"/> Fixed Extinguishing Systems - High Exp. Foam | <input type="checkbox"/> Sprinklers, Pre-action |
| <input type="checkbox"/> Fixed Extinguishing Systems - Low Exp. Foam | <input type="checkbox"/> Sprinklers, Overhead Deluge (Open Head - Automatic) |
| <input type="checkbox"/> Foam Hose Stream | <input type="checkbox"/> Sprinklers, Overhead Deluge (Open Head - Manual) |
| <input type="checkbox"/> Inerting | <input type="checkbox"/> Sprinklers, Wet Pipe |
| <input type="checkbox"/> Self Extinguishing | |
| <input type="checkbox"/> Sprinklers, Dry Pipe | |

Explain discrepancies:

Building Protection Systems (Check those systems in place and operational)

- | | |
|--|---|
| <input type="checkbox"/> Barricade (Explosion Resistant) | <input type="checkbox"/> Floor Drainage |
| <input type="checkbox"/> Cut-offs, Vertical & Horizontal | <input type="checkbox"/> Impregnated Lumber |
| <input type="checkbox"/> Detachment | <input type="checkbox"/> Protective Coating (as on steel) |
| <input type="checkbox"/> Draft Curtains | <input type="checkbox"/> Skidding of Stock or Materials |
| <input type="checkbox"/> Explosion Venting/Relief | <input type="checkbox"/> Smoke & Heat Vents |
| <input type="checkbox"/> Fire Wall | |

Explain discrepancies:

Alarm/Emergency Response

How are alarms transmitted to the Fire Department:

Phone _____ Alarm Box _____ Radio _____ Other, specify _____

Is Area Fire Brigade tested on response time and proficiency? Yes _____ No _____

Explain discrepancies:

Site-wide Protection Systems (Check those systems in place and operational)

- | | |
|--|--|
| <input type="checkbox"/> Employees (other than private fire brigade) | <input type="checkbox"/> Outside Hose Systems |
| <input type="checkbox"/> Explosion Venting Relief | <input type="checkbox"/> Outside Sprinklers, Exposure |
| <input type="checkbox"/> Explosion Suppression System | <input type="checkbox"/> Portable Extinguisher |
| <input type="checkbox"/> Fixed Extinguishing Systems - Aqueous Film Forming Foam | <input type="checkbox"/> Private Fire Brigade |
| <input type="checkbox"/> Fixed Extinguishing Systems - Chemical Foam | <input type="checkbox"/> Protective Coatings |
| <input type="checkbox"/> Fixed Extinguishing Systems - CO ₂ | <input type="checkbox"/> Public Fire Department |
| <input type="checkbox"/> Fixed Extinguishing Systems - Dry Chemical | <input type="checkbox"/> Self Extinguishing |
| | <input type="checkbox"/> Sprinkler System - Hydraulic Designed |
| | <input type="checkbox"/> Sprinklers, Directional Water Spray |

- Fixed Extinguishing Systems - Halogenated Agent
- Fixed Extinguishing Systems - High Exp. Foam
- Fixed Extinguishing Systems - Low Exp. Foam
- Foam Hose Stream
- Inerting
- Sprinklers, Pre-action
- Sprinklers, Dry Pipe

- Sprinklers, In-Rack
- Sprinklers, Overhead Deluge
(Open Head - Automatic)
- Sprinklers, Overhead Deluge
(Open Head - Manual)
- Sprinklers, Wet Pipe

Explain discrepancies:

OCCUPATIONAL/INDUSTRIAL SAFETY
Hazardous Chemical Exposure

- Are employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, etc.?
Yes _____ No _____
- Are employees aware of the potential hazards involving with various chemicals stored or used in the workplace such as acids, bases, caustics, epoxies, phenols, etc.?
Yes _____ No _____
- Are employee exposures to chemicals kept within acceptable limits?
Yes _____ No _____
- Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?
Yes _____ No _____
- Are all containers, such as vats, storage tanks, etc., labeled as to their content, e.g., "CAUSTICS"?
Yes _____ No _____
- Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection, respirators, etc.)?
Yes _____ No _____
- Are flammable or toxic chemicals kept in closed containers when not in use?
Yes _____ No _____
- Are chemical piping systems clearly stenciled or labeled as to their content?
Yes _____ No _____
- Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipe lines, are adequate means available for neutralizing or cleaning up spills or overflows properly and safely?
Yes _____ No _____
- Have standard operating procedures been established and are they being followed in the clean up of chemical spills?
Yes _____ No _____
- Where needed for emergency use, are respirators stored in a convenient, clean, and sanitary location?
Yes _____ No _____
- Are respirators, intended for emergency use, adequate for the various uses for which they may be needed?
Yes _____ No _____
- Are employees prohibited from eating in areas where hazardous chemicals are present?
Yes _____ No _____
- If hazardous substances are used in a process, are medical or biological monitoring systems in operation?
Yes _____ No _____
- Does the company have a sitewide HAZCOM program and has it been effectively implemented?
Yes _____ No _____
- Are employees familiar with the terms Threshold Limit Values (TLV) or Permissible Exposure Limit (PEL) of airborne contaminants and physical agents used in the workplace?
Yes _____ No _____
- Have engineering controls been instituted for hazardous materials, where appropriate, such as diking, splash guards and clothing, ventilation systems, etc.?
Yes _____ No _____
- Have administrative controls been instituted for hazardous materials, where appropriate, such as safe handling practices, process monitoring, supervision, etc.?
Yes _____ No _____
- Whenever possible, are hazardous substances handles in properly designed and exhausted booths or similar locations?
Yes _____ No _____
- Are general dilution or local exhaust ventilation systems functioning to control dusts, vapors, gases, fumes, smoke, solvents or mists, which may be generated in the workplace?
Yes _____ No _____
- Is ventilation equipment provided for removal of contaminants from such operations as:
 ____ production grinding?
 ____ buffing?
 ____ spray painting?
 ____ vapor degreasing?
 Is this ventilation equipment operational?
 Yes _____ No _____

If employees complain of dizziness, headaches, nausea, irritability, or other factors of discomfort when using solvents or other chemicals are they immediately taken for medical monitoring? Yes_____ No_____

If hazardous chemical handlers complain of dermatitis problems such as skin dryness, irritation, or sensitivity, are they medically monitored? Yes_____ No_____

Does an industrial hygienist or environmental health specialist evaluate operations that involve chemicals or hazardous materials? Yes_____ No_____

Where internal combustion engines are in use, are carbon monoxide levels kept within acceptable limits? Yes_____ No_____

Is vacuuming used whenever possible, rather than blowing or sweeping dusts for clean-up? Yes_____ No_____

Are materials which give off toxic asphyxiant, suffocating or anesthetic fumes, stored in remote or isolated locations when not in use? Yes_____ No_____

Explain discrepancies:

Respiratory Protection

Has a respiratory protection program been implemented and are the employees instructed on the correct usage and limitations of the respirators? Yes_____ No_____

Are there written standard operating procedures for the selection and use of respirators? Yes_____ No_____

Are all respirators NIOSH approved for specific application? Yes_____ No_____

Are they inspected, cleaned, sanitized, and maintained regularly? Yes_____ No_____

Explain discrepancies:

Industrial Hygiene

Laser Safety

Does laser training conform to ANSI Z136.1-1986 standard requirements? Yes_____ No_____

Does the company provide laser operating instructions to all equipment operators in accordance with manufacturer's recommendations? Yes_____ No_____

Does instruction include information regarding the hazards and controls necessary to safe operation of laser equipment? Yes_____ No_____

Are only trained and qualified personnel assigned to install, adjust, or operate laser equipment? Yes_____ No_____

Are employees provided with anti-laser eye protection devices in areas in which a potential exposure to direct or reflected laser light is greater than 0.005 watts (5 milliwatts)? Yes_____ No_____

Is the area in which a laser is in use posted with standard laser warning placards? Yes_____ No_____

Are beam shutters or caps utilized, or is the laser turned off, when beam transmission is not required? Yes_____ No_____

Is it a requirement that lasers be turned off when unattended for a substantial period of time such as during shift change, lunch breaks, or overnight? Yes_____ No_____

Are only mechanical or electronic means used as a detector for guiding the internal alignment of a laser? Yes_____ No_____

Does company policy forbid the directing of a laser at another person? Yes_____ No_____

Is operation suspended when weather or atmospheric conditions (rain, snow, dust, fog, etc.) are such that diffraction of a beam may occur? Yes_____ No_____

- If operation is not suspended during these weather conditions, are safety precautions taken such as removal of employees from within range of the area of source and target? Yes _____ No _____
- Do all lasers bear a label to indicate their maximum output? Yes _____ No _____
- Are procedures in place that prohibit employees from being exposed to light intensities above:
- ___ Direct staring: 1 micro-watt per square centimeter? Yes _____ No _____
 - ___ Incidental observing: 1 milliwatt per square centimeter? Yes _____ No _____
 - ___ Diffused reflected light: 2 1/2 watts per square centimeter? Yes _____ No _____
- Are laser units in operation installed above the heads of the employees? Yes _____ No _____
- Are procedures in place to ensure employees are not exposed to microwave power densities in excess of 10 milliwatts per square centimeter? Yes _____ No _____
- Are employees provided with eye and face protection equipment when machines or operations present a potential for injury? Yes _____ No _____
- Do eye and face protection meet the requirements of ANSI Z87.1-1968? Yes _____ No _____
- Are employees whose vision requires the use of corrective lenses in spectacles, provided with eye protection in the form of goggles or spectacles with protective lenses for their specific optical correction? Yes _____ No _____
- Is face and eye protection equipment kept clean and in good repair? Yes _____ No _____
- Explain discrepancies:

Industrial Safety
Noise

- Are there areas in the workplace where continuous noise levels exceed 85 dBa? Yes _____ No _____
- Is there an ongoing preventive health program to educate employees in:
- ___ safe levels of noise exposure? Yes _____ No _____
 - ___ effects of noise on their health? Yes _____ No _____
 - ___ the use of personal protection? Yes _____ No _____
- Have work areas, where noise levels make voice communication between employees difficult, been identified and posted? Yes _____ No _____
- Are noise levels being measured using a sound level meter or an octave band analyzer and are records being maintained? Yes _____ No _____
- Have engineering controls been used to reduce excessive noise levels? Yes _____ No _____
- Where engineering controls are determined to not be feasible, are administrative controls (worker rotation) being used to minimize individual employee exposure times? Yes _____ No _____
- Is approved hearing protective equipment (noise attenuating devices, ear muffers, ear plugs) available to every employee working in high noise areas? Yes _____ No _____
- Has high noise machinery been isolated from the rest of the operation? Yes _____ No _____
- Are employees properly fitted and instructed in the use of ear protection? Yes _____ No _____
- Are employees, in high noise areas, given periodic audiometric testing to ensure that the company has an effective hearing protection system? Yes _____ No _____
- Explain discrepancies:

Industrial Safety

Sanitizing Equipment and Clothing

Is personal protective clothing or equipment that employees are required to wear or use, of a type capable of being cleaned and disinfected easily? Yes_____ No_____

Are employees prohibited from interchanging personal protective clothing or equipment, unless it has been properly cleaned? Yes_____ No_____

Are machines and equipment, which process, handle, or apply materials that could be injurious to employees, cleaned or decontaminated before being overhauled or placed in storage? Yes_____ No_____

Are employees prohibited from smoking or eating in any area where contaminants are present that could be injurious if ingested? Yes_____ No_____

When employees are required to change from street clothing into protective clothing, is a clean change room with separate storage facility for street and protective clothing provided? Yes_____ No_____

Are employees required to shower and wash their hair as soon as possible after a known contact has occurred with a carcinogen? Yes_____ No_____

When equipment, materials, or other items are taken into or removed from a carcinogen regulated area, is care taken so non-regulated areas or the external environment are not contaminated? Yes_____ No_____

Explain discrepancies:

ENVIRONMENTAL PROTECTION
Permitting and Compliance Documentation

- Have appropriate Resource Conservation and Recovery Act (RCRA) Part A & Part B permits been submitted and approved? Yes _____ No _____
- Is a program in place to reduce the volume and toxicity of wastes? Yes _____ No _____
- Are personnel trained in compliance with RCRA Section 302 requirements? Yes _____ No _____
- Are RCRA storage facilities equipped with:
- _____ an internal alarm or communications system? Yes _____ No _____
 - _____ a device capable of summoning emergency assistance from local agencies? Yes _____ No _____
 - _____ fire and spill control equipment? Yes _____ No _____
 - _____ decontamination equipment? Yes _____ No _____
- Have measures been taken to insure Underground Storage Tanks (USTs) and their associated piping are structurally sound and free from leakage under RCRA Subtitle I? Yes _____ No _____
- Is a method in place to detect releases from any portion of a tank or underground piping system? Yes _____ No _____
- Are suspect USTs removed and replaced with approved containers? Yes _____ No _____
- Is spill and overspill prevention equipment in place that either:
- _____ automatically shut off flow when tank is more than 95% full? Yes _____ No _____
 - _____ alerts transfer operator when tank is more the 90% full be restricting flow or sounding a high-level alarm? Yes _____ No _____
 - _____ restricts flow 30 minutes prior to overfilling and alerts transfer operator with a high-level alarm one minute before overfilling? Yes _____ No _____
 - _____ automatically shutting off flow into tank so none of the fittings located on top of the tank are exposed to the product due to overfilling? Yes _____ No _____
- Has a site characterization been performed to include information which includes:
- _____ data on the nature and estimated quantity of release? Yes _____ No _____
 - _____ data from sources or site investigations concerning surrounding populations, water quality, use and approximate locations of wells potentially affected by a release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use? Yes _____ No _____
 - _____ results of the site check? Yes _____ No _____
 - _____ results of the free product investigation? Yes _____ No _____
- Has a corrective action plan been prepared that provides for adequate protection of human health, and the environment? Yes _____ No _____
- Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedial action process, has a Remedial Investigation/Feasibility Study (RI/FS) been performed and properly documented? Yes _____ No _____
- Is the company in compliance with 40 CFR - Protection of the Environment, Sections 302.1 and Clean Water Act, Section 311 as they relate to:
- _____ identification of reportable quantities of hazardous substances? Yes _____ No _____
 - _____ notification of releases of hazardous substances? Yes _____ No _____

Is the company in compliance with SARA Title III as it relates to:

Emergency Planning, Sections 302 and 303? Yes _____ No _____

Release Notification, Section 304? Yes _____ No _____

Community Right to Know, Sections 311 and 312, (maintaining chemical inventories)? Yes _____ No _____

Routine Toxic Chemical Release Reporting, Section 313? Yes _____ No _____

Are emergency notification procedures in place to mitigate inadvertent releases of hazardous substances as defined in Section 304? Yes _____ No _____

Are monitoring programs in place to ensure accurate determinations of reportable quantity releases? Yes _____ No _____

Notifications of a release are made to the following government agencies:

DOE Emergency Operations Center (EOC)? Yes _____ No _____

EPA National Response Center (NRC) 1-800-424-8802? Yes _____ No _____

DOE-ID Warning Communications Center (WCC)? Yes _____ No _____

Regional EPA Emergency Response Team? Yes _____ No _____

State Emergency Planning Commission (SERC)? Yes _____ No _____

Local Emergency Planning Coordinator (LEPC)? Yes _____ No _____

Under SARA 311, is a list of on-site hazardous chemicals submitted to the State EPA on a quarterly basis? Yes _____ No _____

Under SARA 312, is a list of on-site hazardous chemicals submitted on the Tier Two Report, to the State EPA on an annual basis? Yes _____ No _____

Under SARA 313, are the following releases reported to the State EPA:

stack or point of source releases? Yes _____ No _____

fugitive or non-point source releases? Yes _____ No _____

discharges? Yes _____ No _____

Explain discrepancies:

Medical

Is continued medical surveillance provided for employees exposed to hazardous chemicals in the workplace? Yes _____ No _____

If hazardous substances are used in work processes, is a medical or biological monitoring system in place and operational? Yes _____ No _____

If employees complain of dizziness, headache, nausea, irritation or other factors of discomfort, are work areas monitored for fumes, vapors, or particle releases above threshold limits? Yes _____ No _____

Are employees prohibited from eating in areas where hazardous chemicals are present? Yes _____ No _____

Are employees familiar with the Threshold Limit Values (TLV) or Permissible Exposure Limits (PEL) of airborne contaminants and physical agents in use in the workplace? Yes _____ No _____

Have control procedures been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems, handling practices, etc.? Yes _____ No _____

Has the work process been evaluated by an industrial hygienist or environmental health specialist? Yes _____ No _____

Explain discrepancies:

Hazard Control

- Is employee exposure to chemicals kept within acceptable limits? Yes _____ No _____
- Are all containers, such as vats, storage tanks, etc., labeled as to their content, e.g., "CAUSTICS"?" Yes _____ No _____
- Are flammable or toxic chemicals kept in closed containers when not in use? Yes _____ No _____
- Are chemical piping systems clearly labels or marked as to their content? Yes _____ No _____
- Are proper and safe means available for neutralizing or disposing of spills or overflows in areas where corrosive liquids are frequently handles in open containers or drawn from storage vessels or pipelines? Yes _____ No _____
- Whenever possible, are hazardous substances handles in properly designed and exhausted booths or similar locations? Yes _____ No _____
- Are general dilution or local exhaust ventilation systems in place to control dusts, vapors, gases, fumes, smoke, solvents, or mists which may be generated in the workplace? Yes _____ No _____
- Is ventilation equipment provided and in proper operating condition for removal of contaminants from such operations as:
- ____ production grinding? Yes _____ No _____
 - ____ buffing? Yes _____ No _____
 - ____ spray painting? Yes _____ No _____
 - ____ vapor degreasing? Yes _____ No _____
- Whenever possible, is vacuuming used rather than blowing or sweeping dusts? Yes _____ No _____
- Are materials which emit toxic asphyxiants, suffocating or anesthetic fumes, stored in remote or isolated locations when not in use? Yes _____ No _____
- Explain discrepancies:

PART II

**LINES OF INQUIRY
FOR
ACCIDENT/INCIDENT INVESTIGATION**

SITE/FACILITY SPECIFIC INFORMATION

Facility Name and Location:

Person Contacted: _____ Date: _____

Area/Building: _____ Time: _____

Accident was alerted by: _____

(Choose from box at right)

- | |
|------------------|
| 1. Central alarm |
| 2. Other alarm |
| 3. Supervisor |
| 4. Employee |
| 5. Security |
| 6. Outsider |

List Witness(s):

(Include addresses and phone numbers)

Person(s) Conducting Investigation:

(Include addresses and phone numbers)

Date: _____ Time: _____

PERSONNEL INJURY/ILLNESS
Accident Specific Information

 Personal injury due to: **(Check the most appropriate choice(s))**

- | | | |
|--|--|--|
| <input type="checkbox"/> Struck against | <input type="checkbox"/> Over-exertion | <input type="checkbox"/> Fall - same level |
| <input type="checkbox"/> Struck by flying object | <input type="checkbox"/> Slip | <input type="checkbox"/> Fall - different level |
| <input type="checkbox"/> Struck by moving object | <input type="checkbox"/> Extreme temperature contact | <input type="checkbox"/> Electrical contact |
| <input type="checkbox"/> Caught between | <input type="checkbox"/> Chemical contact | <input type="checkbox"/> Inhalation, injection, absorption |

 Other, define: _____

Hazardous Condition

 Contributing condition due to: **(Check the most appropriate choice(s))**

- | | | |
|---|---|---|
| <input type="checkbox"/> Improperly guarded | <input type="checkbox"/> Improper Ventilation | <input type="checkbox"/> Unsafe design/construction |
| <input type="checkbox"/> Unguarded | <input type="checkbox"/> Improper clothing | <input type="checkbox"/> Poor housekeeping |
| <input type="checkbox"/> Defective tool/equipment | <input type="checkbox"/> Inadequate lighting | <input type="checkbox"/> Hazardous arrangement |

 Other, define: _____

Agent of Accident/Injury

 Contributing agent was: **(Check the most appropriate choice(s))**

- | | | |
|---|--|--|
| <input type="checkbox"/> Machine | <input type="checkbox"/> Level surface | <input type="checkbox"/> Ladder or scaffold |
| <input type="checkbox"/> Vehicle | <input type="checkbox"/> Stairs, ramp | <input type="checkbox"/> Building (door, wall, window, etc.) |
| <input type="checkbox"/> Chemical | <input type="checkbox"/> Boiler or Pressure system | <input type="checkbox"/> Electrical |
| <input type="checkbox"/> Hoist or crane | <input type="checkbox"/> Hand tool | |

 Other, define: _____

Unsafe Act

 Contributing act was: **(Check the most appropriate choice(s))**

- | | | |
|--|---|---|
| <input type="checkbox"/> Operation without authority | <input type="checkbox"/> Improper use of tool/equipment | <input type="checkbox"/> Poor housekeeping |
| <input type="checkbox"/> Defective tool or equipment | <input type="checkbox"/> Unsafe speed | <input type="checkbox"/> No unsafe act identified |
| <input type="checkbox"/> Bypassed safety device | <input type="checkbox"/> Adjusting or clearing machine | <input type="checkbox"/> Failure to use PPE |
| <input type="checkbox"/> Unsafe lifting/carrying | (While in motion) | <input type="checkbox"/> Horseplay |

 Other, define: _____

Contributing Factors (Check the most appropriate choice(s))

- | | | |
|---|--|---|
| <input type="checkbox"/> Inadequate work instructions | <input type="checkbox"/> Disregard of instructions | <input type="checkbox"/> Inadequate supervision |
| <input type="checkbox"/> Lack of training | <input type="checkbox"/> Lack of knowledge | |
| <input type="checkbox"/> Lack of skill | <input type="checkbox"/> Act of other personnel | |

 Other, define: _____

Specific Event Information (Be specific in answering the following questions)

Was the injury/illness classified as occupational? Yes _____ No _____

The extent of injury or illness is classified as:

____ Potential Workman Compensation Claim? Yes _____ No _____

____ Potential Work Day(s) Lost? Yes _____ No _____

____ Potential Work Day(s) Lost Restricted? Yes _____ No _____

____ First Aid? Yes _____ No _____

What is individuals normal job assignment:

- ____ Administrator
 - ____ Engineer
 - ____ Craftsperson
 - ____ Technician
 - ____ Services
 - ____ Other, define
-

Injury / illness meets requirements for a Type A investigation? Yes _____ No _____

____ Fatality or imminently fatal injury / illness? Yes _____ No _____

____ Injury or illness has high probability of resulting in permanent total disability? Yes _____ No _____

____ Injury or illness resulting from an accident or exposure in which three or more individuals were hospitalized for treatment? Yes _____ No _____

Injury / illness meets requirements for a Type B investigation? Yes _____ No _____

____ In-patient hospitalization of more than five continuous days? Yes _____ No _____

____ Injury or illness results in permanent partial disability? Yes _____ No _____

____ Injury or illness resulting from an accident causing five or more lost-workday cases? Yes _____ No _____

____ Injury or illness resulting from any series of similar or related accidents involving five or more persons, one or more of which is a lost-workday case? Yes _____ No _____

Injury / illness meet requirements for a Type C investigation? Yes _____ No _____

____ Any other injury/illness that are recordable according to 29 CFR 1904.2 through 1904.5, 1904.11, 1904.12, 1904.14, and 1904.21 occurring among employees while performing work at DOE-owned or -leased facilities? Yes _____ No _____

An injury / illness reoccurrence of a similar nature has occurred within the company? Yes _____ No _____

____ Within the past 30 days ____ Within the past 6 months

____ Within the past (1) year ____ Within the past 5 years

Employees received documented training with respect to the activities in progress at the time of the injury / illness occurrence? Yes _____ No _____

A "Preliminary Statement of Incident" Form was completed by all involved personnel and witnesses prior to leaving the site? Yes _____ No _____

Injury / illness is recordable because injury resulted in:

Injury:

- ____ Medical treatment ____ Loss of consciousness
- ____ Bone fracture ____ Work or motion restriction
- ____ Transfer to different job or termination due to injury

Illness:

- ____ Diagnosed as work related ____ Diagnosed as work environment related
- ____ Transferred or terminated as due to job related illness

Worker Compensation Claim forms completed:

Notice of Injury and Claim for Benefits? Yes _____ No _____
 Assignment of Benefits and Limited Power of Attorney? Yes _____ No _____

Define the nature of the injury:

Foreign body Amputation Dislocation Fracture Dermatitis
 Laceration Hernia Burn Abrasion Respiratory
 Puncture Wound Strain or Sprain Chemical Bruise and contusion

Other, define:

Define the part of the body injured:

Head Upper extremity Body trunk Lower extremity

The following work control documents were provided and properly completed

Management & Safety Reviewed Work Procedure? Yes _____ No _____
 Job Safety Analysis? Yes _____ No _____
 Safe Work Permit? Yes _____ No _____
 Special Safety Work Permit? Yes _____ No _____
 Material Safety Data Sheet (MSDS)? Yes _____ No _____
 Hot Work Permit? Yes _____ No _____

SAFEGUARDS & SECURITY (Aviation Accident)

Pilot

Pilot(s) are current with respect to their first class medical training? Yes_____ No_____

Pilot(s) are certified in ATP? Yes_____ No_____

Pilot(s) are current with check ride requirements in FAR Part 135? Yes_____ No_____

Pilot(s) are current in an aircraft being operated per FAR Part 135? Yes_____ No_____

An individual pilot's time in assigned aircraft is:
 _____<20 hours _____>100 hours

Pilot in command (PIC), is familiar with local airport(s) conditions? Yes_____ No_____

Pilot(s) maintain an aircraft deficiency list? Yes_____ No_____

A PIC has performed >100 landings / takeoffs from airports >4000 feet above sea level? Yes_____ No_____

Pilot(s) are instructed in procedures for landing and takeoff behind both larger and smaller aircraft? Yes_____ No_____

Explain discrepancies:

Co-Pilot

Co-pilot(s) are instrument rated? Yes_____ No_____

Co-pilot(s) are current with check ride requirements in FAR Part 135? Yes_____ No_____

Co-pilot(s) are current in an aircraft being operated per FAR Part 135? Yes_____ No_____

Explain discrepancies:

Aircraft Specific Information

Aircraft was within weight and balance criteria? Yes_____ No_____

Aircraft was start/stop distance calculated? Yes_____ No_____

Aircraft instruments were checked prior to each flight for normal operation? Yes_____ No_____

If "No", explain

Flight was considered to be: Local Cross country

Aircraft was:

Landing Taking off Changing altitude Level flight Taxiing

Aircraft was loaded with cargo: Forward Rearward

Aircraft engines were operating: Normally Abnormally

Aircraft was in radio contact with: FAA Owner of aircraft None

Aircraft flight was: Smooth Turbulent

Aircraft operating time during: Daytime Nighttime

Aircraft accident was at the: Beginning of flight duty time End of flight duty time

Did aircraft have outstanding deficiencies? Yes No

If "Yes", describe in detail: _____

Was aircraft on an IFR approach? Yes No

If "Yes", was the approach:

ILS VOR Radar Straight in Circle to land
 Other, explain: _____

Explain discrepancies: _____

Flight Plan

A flight plan(s) was filed with: FAA Owner of aircraft None

Explain discrepancies: _____

Aircraft Maintenance

Aircraft is current with maintenance requirements per FAR? Yes No

Aircraft engines were close to maintenance overhaul time? Yes No

Major maintenance was performed within past 10 hours of flight? Yes No

(If "yes", identify: Airframe Engine(s))

Explain discrepancies: _____

Weather/Wind/Terrain/Runway Conditions

Weather conditions were: Instrument Flight Rules (IFR)

Visual Flight Rules (VFR)

Weather was: Clear Raining Foggy Snowing Thunder showers

Runway conditions were: Wet Dry Icy Snow-covered

Runway conditions were: Paved Unpaved

Wind conditions were: Light and Variable Over 20 Knots Gusty

Wind, during landing and takeoff was:

Within 15 degrees of runway direction
 Between 15 degrees and 45 degrees of runway direction
 >45 degrees to runway

Terrain conditions were: ___Level___Hilly___Mountainous

Altitude density calculations were made?

Yes_____ No_____

Explain discrepancies:

Aviation Training/Communication/Emergency Procedures

Training records are current for pilot in command (PIC)?

Yes_____ No_____

Training records are current for co-pilot?

Yes_____ No_____

Inter-company pilot communications are: ___Formal___ Informal

Emergency procedures were explained to passengers?

Yes_____ No_____

Explain discrepancies:

Aircraft Accident Site

Accident scene was preserved for Federal Aviation Administration (FAA) and

National Transportation Safety Board (NTSB) investigations?

Yes_____ No_____

Photographs of accident scene were taken and documented?

Yes_____ No_____

Local authorities were notified?

Yes_____ No_____

All available information was made available to investigators?

Yes_____ No_____

Explain discrepancies:

CONSTRUCTION
Hoisting and Rigging Accident - Includes Industrial Trucks, Forklifts, Manlifts

- Accident occurred on-site? Yes _____ No _____
- Accident involved company-owned hoisting and rigging equipment? Yes _____ No _____
- Load was dropped during this occurrence? Yes _____ No _____
- Load was an ordinary lift? Yes _____ No _____
- Load was a special-high-consequence lift? Yes _____ No _____
- Load was a high-consequence lift? Yes _____ No _____
- A person in charge (PIC) was assigned? Yes _____ No _____
- A critical lift was being performed? Yes _____ No _____
- A professional equipment operator was operating the equipment? Yes _____ No _____
- A signal person was being utilized? Yes _____ No _____
- Was the PIC someone other than the equipment operator or signal person? Yes _____ No _____
- Were proper procedures being utilized / followed for critical lifts? Yes _____ No _____
- If a manlift was in use, were personnel on the man-lift at the time of the accident? Yes _____ No _____
- Was the man-lift constructed/designed per the DOE Hoisting & Rigging Manual? Yes _____ No _____
- Were the pre-lift procedures for lifting personnel on a man-lift specified in the DOE Hoisting & Rigging Manual followed? Yes _____ No _____
- Are operators/riggers/signal persons trained and current within the training intervals specified by the DOE Hoisting & Rigging Manual? Yes _____ No _____
- Explain discrepancies:
-
-

Crane Type and Set-up

- Describe type of equipment being used:
 ___ overhead crane ___ mobile crane ___ forklift ___ manlift
- If a mobile crane, was it a: ___ lattice boom ___ hydraulic boom
- Did the mobile crane fail structurally? Yes _____ No _____
- Did the mobile crane tip over? Yes _____ No _____
- Were load charts used to determine net capacity of the mobile crane? Yes _____ No _____
- Was the mobile crane properly leveled with the crane weight off of the tires? Yes _____ No _____
- Were all rigging accessories within the inspection/load test intervals as specified in the DOE Hoisting & Rigging Manual? Yes _____ No _____
- Were outriggers fully extended and properly set? Yes _____ No _____
- Was the actual weight of the load known? Yes _____ No _____
- Was the point of suspension located directly above the center of gravity of the load? Yes _____ No _____
- Did the accident occur while traveling the load? Yes _____ No _____
- Was the crane boom struck by the load? Yes _____ No _____
- Did the crane boom strike an object; i.e., edge of building, during lift? Yes _____ No _____
- Was "side pull" being attempted as part of the lift? Yes _____ No _____
- Did the load strike the outriggers? Yes _____ No _____
- Were safety devices, (i.e., limit switches, etc.), inoperable? Yes _____ No _____
- Did rigging accessories fail under load? Yes _____ No _____
- Was the load properly rigged? Yes _____ No _____
- Was the additional stress imposed by sling angles allowed for? Yes _____ No _____
- Were rated capacities of equipment exceeded? Yes _____ No _____
- Was additional counterweight added to the crane? Yes _____ No _____
- Was counterweight subtracted from the crane? Yes _____ No _____
- Explain discrepancies:
-
-

Weather/Wind/Terrain Conditions

Was wind a contributing factor in the accident?

Yes _____ No _____

Was weather a contributing factor in the accident?

Yes _____ No _____

Was terrain a contributing factor in the accident?

Yes _____ No _____

Were ground (soft shoulder, etc.) conditions a contributing factor to the accident?

Yes _____ No _____

Explain discrepancies:

ELECTRICAL - PART A

Electrical Accident Specific Information

Identify the energy source: Equipment Lightning

How were personnel or equipment exposed:

- In open area In pole or tower
 On roof In building or structure

Did equipment have:

- A "Master Labeled" protection system? Yes _____ No _____
 A nominal protection system? Yes _____ No _____
 An improperly modified or maintained? Yes _____ No _____
 "Master Labeled" or nominal system? Yes _____ No _____
 No protection system? Yes _____ No _____

Explain discrepancies:

Electrical Injury

If personnel injury was involved, "Why" were personnel exposed:

- Disregarded proper warning? Yes _____ No _____
 Disregarded advice? Yes _____ No _____
 No warning, sudden storm? Yes _____ No _____

Precautions taken when working in potential lightning areas

- Procedures adequate? Yes _____ No _____
 Procedures inadequate? Yes _____ No _____
 Procedures not followed? Yes _____ No _____

Explain discrepancies:

**If personnel injury is involved in this accident, continue on.
 If NO personnel injury is involved, proceed to Part B.**

Personnel Injury

Personnel Injury primarily due to:

- Electric shock? Yes _____ No _____
 Thermal burn? Yes _____ No _____
 Arc/Flash? Yes _____ No _____
 Fragments? Yes _____ No _____
 Involuntary reactor? Yes _____ No _____
 Moving components (i.e., whipping cables, breaker parts, etc.)? Yes _____ No _____
 Other, specify Yes _____ No _____

Explain discrepancies:

Did the above primary event result in:

- Fall? Yes _____ No _____
- Contact with: Yes _____ No _____
- Energized part? Yes _____ No _____
- Thermally hot part? Yes _____ No _____
- Sharp part? Yes _____ No _____
- Pinch point? Yes _____ No _____
- Trapped? Yes _____ No _____
- Other, specify Yes _____ No _____

Explain discrepancies:

Identify type of injury:

- Abrasions, cuts, punctures? Yes _____ No _____
- Concussions, contusions? Yes _____ No _____
- Breaks, sprains, strains, dislocations? Yes _____ No _____
- Burns? Yes _____ No _____
- Eye injury? Yes _____ No _____
- Respiratory problem? Yes _____ No _____
- Circulatory problem? Yes _____ No _____
- Nerve problem? Yes _____ No _____
- Renal, Other internal problem? Yes _____ No _____
- Other, specify Yes _____ No _____

Explain discrepancies:

What is estimate of "through body" current:

- Milliamperes Amperes Unknown

What is estimate of time duration of "through body" current flow*:

- Seconds Unknown

What is estimate of magnitude of fault current:

- I² (t) Unknown

What is estimate of time duration of fault current flow:

- Seconds Unknown

Explain discrepancies:

** If current flow is less than 3 milliamperes, through-body shock is insufficient to directly cause a WCC and it is possible the investigation may be closed at this point. However, involuntary reaction or psychosomatic effects may still be involved.*

Define part of body injured:

- Head Face Back Eye
 - Arm Knee Leg Ankle
 - Foot Chest Hip Shoulder
 - Internal Organs Hand/Finger
 - Other, specify
-

Define the extent of injury:

- First Aid Case? Yes _____ No _____
- Worker Compensation Case? Yes _____ No _____
- Work Day Lost? Yes _____ No _____
- Work Day Lost - Restricted? Yes _____ No _____
- Recordable Injury? Yes _____ No _____

Explain discrepancies:

Voltage/Energy Involved (Mark appropriate answer with an "X". If Primary accident cause, also mark with a "P")

	Equip. Failure		Proper Equip. for Job		Damaged
	Yes	No	Yes	No	Yes
Power limited (NEC 725):*	_____	_____	_____	_____	_____
Ground Fault Circuit Interrupt (GFCI) Protected (Class A):**	_____	_____	_____	_____	_____
<150 volts to ground	_____	_____	_____	_____	_____
150-600 volts to ground	_____	_____	_____	_____	_____
600 volts to 15 kV class	_____	_____	_____	_____	_____
<15 kV class to include 69 kV	_____	_____	_____	_____	_____
69 kV to 287 kV	_____	_____	_____	_____	_____
EHV: (345 kV to 765 kV)	_____	_____	_____	_____	_____
Lab and research type equipment	_____	_____	_____	_____	_____
<10 joules	_____	_____	_____	_____	_____
>50 joules	_____	_____	_____	_____	_____

* If open circuit voltage was less than the voltage indicated in Table 1 for the conditions at time of accident and voltage was applied externally to the body, document the situation and consider that electrical shock was not sufficient to cause direct injury nor directly result in a WCC. This may mean that the investigation can be closed at this point.

Table 1

AC				DC			
Sinusoidal		Non-sinusoidal		Non-interrupted		Interrupted @ 10-200 Hz	
Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
30 VRMs	15 VRMs	4.24V Peak	21.1V Peak	60V	30V	24.8V	12.4V

** If Class "A" GFCI protection was in use and proven after the accident to be in proper operating condition, document the situation and consider that electrical shock was not sufficient to cause direct injury nor directly result in a WCC. This may mean that the investigation can be closed at this point.

Source Equipment Involved (Mark appropriate answer with an "X". If Primary accident cause, also mark with a "P")

	Equip. Failure		Proper Equip. for Job		Damaged
	Yes	No	Yes	No	Yes
Tools	_____	_____	_____	_____	_____
Hand held equipment	_____	_____	_____	_____	_____
Attachment cord	_____	_____	_____	_____	_____
Plug	_____	_____	_____	_____	_____
Appliances	_____	_____	_____	_____	_____
Office type appliance (desk lamp, computer, printer, etc.)	_____	_____	_____	_____	_____
Bench type appliance (grinder, - not hand held)	_____	_____	_____	_____	_____
Wet type appliance (washer, water cooler)	_____	_____	_____	_____	_____
Heating appliance (hot plate, oven, stove, dryer (not hand held), coffee pot, space heater)	_____	_____	_____	_____	_____
Other stationary type appliances	_____	_____	_____	_____	_____
Over-current/disconnect devices	_____	_____	_____	_____	_____
Switch (safety, light, air break, etc.)	_____	_____	_____	_____	_____
Circuit breakers	_____	_____	_____	_____	_____
Fuses	_____	_____	_____	_____	_____
Lightning/surge arrestor	_____	_____	_____	_____	_____
Conductors/Raceways	_____	_____	_____	_____	_____
Extension cords	_____	_____	_____	_____	_____
Cables	_____	_____	_____	_____	_____
Bare conductors/bus/components	_____	_____	_____	_____	_____
Cable tray	_____	_____	_____	_____	_____
Conduit and other raceway system	_____	_____	_____	_____	_____
Overhead power lines/appurtenances	_____	_____	_____	_____	_____
Transformation	_____	_____	_____	_____	_____
Switch yard/substations	_____	_____	_____	_____	_____
Transformers	_____	_____	_____	_____	_____
Capacitors	_____	_____	_____	_____	_____
Resistors/reactors	_____	_____	_____	_____	_____
Utilization Equipment	_____	_____	_____	_____	_____
Motors/generators	_____	_____	_____	_____	_____
Lighting devices	_____	_____	_____	_____	_____
Welders	_____	_____	_____	_____	_____
Electronic equipment	_____	_____	_____	_____	_____
Radio, TV, audio-visual devices and equipment	_____	_____	_____	_____	_____
Distribution Equipment	_____	_____	_____	_____	_____
Panel-boards	_____	_____	_____	_____	_____
Load centers	_____	_____	_____	_____	_____
Motor control centers	_____	_____	_____	_____	_____
Switch-gear	_____	_____	_____	_____	_____
Control consoles	_____	_____	_____	_____	_____
Electrical diagnostic equipment	_____	_____	_____	_____	_____

Safety Features

Equipment guarding	_____	_____	_____	_____	_____
Equipment enclosure	_____	_____	_____	_____	_____
Insulation system	_____	_____	_____	_____	_____
System grounding	_____	_____	_____	_____	_____

Were personnel involved with these failures? Yes_____ No_____

Contributing or Primary Factors (Mark appropriate answer with an "X". If Primary accident cause, also mark with a "P")

	Equip. Failure		Proper Equip. for Job		Damaged
	Yes	No	Yes	No	Yes
Test equipment	_____	_____	_____	_____	_____
Tools	_____	_____	_____	_____	_____
Part, component	_____	_____	_____	_____	_____
Protective clothing or equipment	_____	_____	_____	_____	_____

Was it within authorized use period? Yes_____ No_____

Additional Factors (Mark appropriate answer with an "X". If Primary accident cause, also mark with a "P")

- | | |
|-------------------------------------|--|
| _____ Short circuit | _____ Inadvertent test equipment contact |
| _____ Lightning strike on system | _____ Inadvertent test equipment contact |
| _____ System voltage surge | _____ Inadvertent component contact |
| _____ Loose connection | _____ Improperly secured equipment |
| _____ Broken conductor | _____ Foreign object in equipment |
| _____ Broken insulator/bus support | _____ Tracking path |
| _____ Inadvertent personnel contact | _____ Test equipment on wrong range |
| _____ Inadvertent tool contact | _____ Forcing |

Work in Progress (Mark appropriate answer with an "X". If Primary accident cause, also mark with a "P")

- | | |
|---|---|
| _____ Construction, installation | _____ Connecting/disconnecting a plug, socket, connector assembly, etc. |
| _____ Partial demolition | _____ Modification |
| _____ Wire pulling | _____ Fish tape use |
| _____ Inserting or removing a component | _____ Drilling, sawing, cutting |
| _____ Troubleshooting | _____ Physically measuring |
| _____ Taking electrical measurements | _____ Wire/cable cutting |
| _____ Terminating, un-terminating | _____ Wire/cable skinning |
| _____ Test performance | _____ Inspecting |
| _____ Using portable electrical tools (contributing or primary factors) | |
| _____ Opening or closing a circuit element | |

Was system energized? Yes_____ No_____

Was adjacent system energized? Yes_____ No_____

Outdoor Line (Mark appropriate answer with an "X")

- | | |
|--|--|
| <input type="checkbox"/> Accident due to line down on ground, road, etc. | <input type="checkbox"/> Personnel on ground/road |
| <input type="checkbox"/> Line height proper | <input type="checkbox"/> Personnel on pole/structure |
| <input type="checkbox"/> Line on ground, road, etc. | <input type="checkbox"/> Personnel in Bucket Truck or other elevating mean |
| <input type="checkbox"/> Vehicle contact | <input type="checkbox"/> Act of nature: |
| <input type="checkbox"/> Vehicle's load contact | <input type="checkbox"/> Ice, Snow |
| <input type="checkbox"/> Personnel contact | <input type="checkbox"/> Wind |
| <input type="checkbox"/> Personnel on vehicle | <input type="checkbox"/> Other, specify |
| <input type="checkbox"/> Personnel on load | |

Brief narrative if any of the above facts need clarification, expansion, etc:

ELECTRICAL - PART B

Injury Analysis

If personnel injury was involved, what is extent of injury:

- Potential Worker Compensation Claim (WCC)? Yes _____ No _____
- First Aid Case? Yes _____ No _____
- Potential Work Day Loss (WDL)? Yes _____ No _____
- Recordable Injury? Yes _____ No _____
- Potential Work Day Loss / Restricted (WDLR)? Yes _____ No _____

Explain discrepancies:

What is the potential injury consequence of a similar accident?

- Death, serious or disabling injury to more than 5 people? Yes _____ No _____
- Death, serious or disabling injury to less than 6 people? Yes _____ No _____
- WCC? Yes _____ No _____
- WDL/WDLR? Yes _____ No _____
- First Aid Case? Yes _____ No _____
- No personnel injury probability? Yes _____ No _____

Was electrical shock involved? Yes _____ No _____

What is the probability of a similar accident occurring in the facility:

- Highly probable? Yes _____ No _____
- Even chance? Yes _____ No _____
- Improbable? Yes _____ No _____
- Uncertain? Yes _____ No _____

Explain: _____

Explain discrepancies:

Property Loss

What are the potential fire and/or property damage loss consequences of a similar accident:

____ >\$250K?

Yes _____ No _____

____ \$50-250K?

Yes _____ No _____

____ \$1-50K?

Yes _____ No _____

____ <\$1,000?

Yes _____ No _____

Was fire or property damage loss involved in this accident?

Yes _____ No _____

If "Yes", check potential loss category:

____ >\$250K ____ \$50-250K ____ \$1-50K ____ <\$1,000

Explain discrepancies:

Programmatic Loss

Was programmatic delay involved in this accident?

Yes _____ No _____

If "NO", could a similar accident cause a programmatic delay?

Yes _____ No _____

If "Yes", describe:

Dollar loss associated with this delay: \$ _____

Explain discrepancies:

Environmental Disturbances

IF the following answers are given:

____ "No" personnel injury, and

____ Fire / property damage is <\$1,000, and

____ "No" program delays, and

____ "Improbably" for similar accident to occur in facility, or

____ "Even chance" or "Uncertain" regarding similar accident occurrence, and

____ "First aid case" or "No personnel injury probability" selected, and

____ Potential fire / property damage loss consequences if similar accident occurred would amount to "\$1-50K" or "<\$1,000".

Explain discrepancies:

THEN CLOSE the investigation at this point.

ELECTRICAL - PART C

Procedural

- Task instructions LTA? Yes _____ No _____
- Procedure LTA? Yes _____ No _____
- Supervision LTA? Yes _____ No _____
- Worker knowledge LTA? Yes _____ No _____
- Failure to follow task instructions? Yes _____ No _____
- Failure to follow task procedure? Yes _____ No _____
- Working energized when task could have been done de-energized? Yes _____ No _____
- System inadvertently energized? Yes _____ No _____
- Lockout/tagout procedure violated by others? Yes _____ No _____
- Lockout/tagout procedure violated by involved? Yes _____ No _____
- Lockout/tagout procedure violated by supervision? Yes _____ No _____

Explain discrepancies:

Ambient

- Wind _____ Snow _____ Rain _____ Cold _____ Heat _____ Ice _____ Noise
- Visibility: _____ Darkness _____ Glare _____ Dust
- Acts of others? Yes _____ No _____
- Crowded working conditions? Yes _____ No _____
- Hazardous Ambient (chemicals, explosive area, etc.)? Yes _____ No _____

Explain discrepancies:

Accident Specific Information

- Is system in compliance with codes, standards, and regulations? Yes _____ No _____
- If "NO": Did non-compliance contribute to or cause the accident? Yes _____ No _____
- Was cause of accident partially due to acts of persons? Yes _____ No _____
- If "YES": Is employee qualified to perform this work? Yes _____ No _____
- Has employee performed this work before? Yes _____ No _____
- If "YES": How often: _____ A few times _____ Many times
- How long has it been since employee last performed this task:
 Recently 6 months to 1 year Longer than 1 year
- Was employee distracted by:
 - Surroundings? Yes _____ No _____
 - Possible home, morale problems? Yes _____ No _____
 - Other, specify Yes _____ No _____

Was work atmosphere a "rush" situation? Yes _____ No _____

Explain discrepancies:

Was facility in a shutdown status?	Yes _____ No _____
_____ In an operational status?	Yes _____ No _____
_____ Was status scheduled?	Yes _____ No _____
_____ Was status unscheduled?	Yes _____ No _____
Was work being done on an accelerated schedule?	Yes _____ No _____
Was employee tired?	Yes _____ No _____
If "Yes":	
_____ Has employee worked overtime within the last 72 hours prior to the accident?	Yes _____ No _____
_____ Is employee's 72 hour pre-accident profile indicative of being over-tired?	Yes _____ No _____
Was employee physically able to perform task without sustaining physical injury or damage?	Yes _____ No _____
Was supervision actively involved in job supervision at job site?	Yes _____ No _____
Was supervision actively involved in task planning?	Yes _____ No _____
Was this work regarded during task planning as hazardous work?	Yes _____ No _____
If "YES":	
_____ By supervision?	Yes _____ No _____
_____ Was this fact communicated to employees?	Yes _____ No _____
_____ Was this fact stressed?	Yes _____ No _____
_____ By employees?	Yes _____ No _____
_____ Was this fact communicated to supervisors?	Yes _____ No _____
_____ Was this fact stressed?	Yes _____ No _____
_____ Was a specific task risk assessment performed?	Yes _____ No _____
Was "Two Worker" concept in effect for this task?	Yes _____ No _____
If "YES":	
_____ Did worker #1 fail to discuss proposed action with worker #2?	Yes _____ No _____
_____ Discussed proposed action with partner and acted in accordance with agreed procedure?	Yes _____ No _____
_____ Discussed proposed action with partner but failed to act in accordance with agreed procedure?	Yes _____ No _____
_____ Discussed proposed action with partner but failed to agree on a procedure?	Yes _____ No _____
Was facility authorization documentation (SAR, etc.) LTA?	Yes _____ No _____
Does facility documentation address this generic risk?	Yes _____ No _____
If "YES":	
_____ Were essential bases of risk assumption satisfied in this incident?	Yes _____ No _____
_____ Was these a failure to translate facility authorization documents into facility procedures?	Yes _____ No _____

Explain discrepancies:

TRANSPORTATION

Radioactive/Fissile Material

Identify the type of occurrence

- Accident On-site Air
- Freight-forwarder Incident Off-site
- Highway Violation Rail
- Other, specify

- Is the dollar loss over \$1,000? Yes _____ No _____
- Has Form DOE 5484.X been completed? Yes _____ No _____
- Has the Hazardous Materials Shipping Coordinator been notified? Yes _____ No _____
- Has the Hazardous Materials Shipping Occurrences report been completed? Yes _____ No _____
- Does the incident involve a motor carrier? Yes _____ No _____
- Has Traffic Management been notified? Yes _____ No _____
- Are other transport modes involved? Yes _____ No _____
- Is it a minor incident? Yes _____ No _____
- Has the incident been properly resolved with shipping, transportation, and receiving? Yes _____ No _____
- According the Department of Transportation (DOT) regulation, is this incident reportable (off site)? Yes _____ No _____
- Explain discrepancies:

Packaging/Placarding/Shipping

- Were proper shipping papers completed? Yes _____ No _____
- Was the material properly classified packaged, marked, Labeled, and certified as being in the proper condition to transport? Yes _____ No _____

Type of material

 Quantity of material

- Was the vehicle properly placarded? Yes _____ No _____
- Were the radiation and contamination limits properly observed? Yes _____ No _____
- Were the radiation and contamination limits provided on the shipping papers? Yes _____ No _____
- Was packaging identified by model or number? Yes _____ No _____
- If "Yes", specify:

Explain discrepancies:

Containment Loss

- Is there a breach of contamination containment? Yes _____ No _____
- If "Yes", was the breach _____ on-site _____ off-site
- If there is a loss of containment on-site, check those notified:
- Plant/General Manager? Yes _____ No _____
- DOE Field Office Manager? Yes _____ No _____
- Safeguards and Security? Yes _____ No _____
- Emergency Operations Center? Yes _____ No _____

____ Shipping? Yes _____ No _____
____ Transportation? Yes _____ No _____
____ Receiving? Yes _____ No _____

Is there a loss of containment off-site, has the DOT been notified? Yes _____ No _____

Is it a reportable quantity shipment? Yes _____ No _____

If "Yes", has the National Spill Response Center (via Coast Guard) been notified? Yes _____ No _____

If no loss of containment, check those notified: Yes _____ No _____
____ Shipping? Yes _____ No _____

____ Transportation? Yes _____ No _____

____ Receiving? Yes _____ No _____

Have the appropriate safety and quality functions been investigated? Yes _____ No _____

If "Yes", specify: Yes _____ No _____

Explain discrepancies:

Restoration/Emergency Response Activities

Are there any photos, diagrams, or other classifications provided? Yes _____ No _____

If "NO", are they needed? Yes _____ No _____

Has the principal contact or individual telephone number been provided? Yes _____ No _____

Has the vehicle involved been surveyed prior to releasing to the public? Yes _____ No _____

Were proper tie-downs provided and in place for the shipment? Yes _____ No _____

Were personnel exposed or contaminated? Yes _____ No _____

If "Yes", specify:

If "Yes", were appropriate follow-up actions taken? Yes _____ No _____

Was the nature of the packaging failure, if any, determined? Yes _____ No _____

Was there evidence of improper handling? Yes _____ No _____

If "Yes", define:

Was there evidence of improper training? Yes _____ No _____

If "Yes", define:

Was there evidence of tampering? Yes _____ No _____

If "Yes", define:

Explain discrepancies:

FIRE

Specific Fire Accident Information

- | | |
|---|---|
| <input type="checkbox"/> Electrical Breakdown | <input type="checkbox"/> Riot |
| <input type="checkbox"/> Sabotage/Arson | <input type="checkbox"/> Explosion |
| <input type="checkbox"/> Smoke | <input type="checkbox"/> Pressure Vessel |
| <input type="checkbox"/> Fire | <input type="checkbox"/> Sprinkler Leakage |
| <input type="checkbox"/> Overheating | <input type="checkbox"/> Lightning |
| <input type="checkbox"/> Chemical Reaction | <input type="checkbox"/> Incendiary |
| <input type="checkbox"/> Molten Material | <input type="checkbox"/> Flammable Reaction |

Was a structure damaged? Yes _____ No _____
If "Yes", describe the damage:

Was there damage to goods? Yes _____ No _____
If "Yes", describe the damage:

Explain discrepancies:

Specific Fire Loss Information (Be specific in answering the following questions)

Number of fires involved: _____

Fire set by: Employee Intruder Juvenile Outsider
 Unknown

How fire was set:

What was used to start fire:

Plant is experiencing or has experienced labor difficulties? Yes _____ No _____
If "Yes", describe:

Fire Fighting Equipment Used:

Extinguisher(s) (type and number): _____
Hose Station(s): _____

If a yard fire, was yard supervised or covered by watchman or other security measures?

Yes _____ No _____

If "Yes", describe

Explain discrepancies:

WASTE MANAGEMENT

Hazardous Waste - Accident Specific Information

Were chemical reactions involved? Yes _____ No _____

Was there a release of chemicals to the environment? Yes _____ No _____

If "YES", was it released to the:

____ Land? Yes _____ No _____

____ Air? Yes _____ No _____

____ Water? Yes _____ No _____

Explain discrepancies:

What hazards were involved? Yes _____ No _____

____ Toxic Material? Yes _____ No _____

____ Acidic Material? Yes _____ No _____

____ Caustic Material? Yes _____ No _____

____ Flammable Material? Yes _____ No _____

____ Reactive Material? Yes _____ No _____

____ Health Hazard? Yes _____ No _____

____ Physical Hazard? Yes _____ No _____

Explain discrepancies:

Is waste considered hazardous by:

____ Resource Conservation and Recovery Act (RCRA)? Yes _____ No _____

____ Toxic Substance Control Act (TSCA)? Yes _____ No _____

____ Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)? Yes _____ No _____

____ National Environmental Policy Act (NEPA)? Yes _____ No _____

____ Department of Transportation (DOT)? Yes _____ No _____

____ Clean Air Act (CAA)? Yes _____ No _____

____ Clean Water Act (CWA)? Yes _____ No _____

____ Occupational Safety and Health Administration (OSHA)? Yes _____ No _____

____ American Conference of Governmental Industrial Hygienists (ACGIH)? Yes _____ No _____

Explain discrepancies:

Were Polychlorinated Biphenyls (PCB) or other known carcinogens involved? Yes _____ No _____

What was concentration of original material? Yes _____ No _____

____ <2 ppm PCBs? Yes _____ No _____

____ 2 ppm <PCBs <50 ppm? Yes _____ No _____

____ 50 ppm <PCBs <50 ppm? Yes _____ No _____

____ PCBs > 500 ppm? Yes _____ No _____

Explain discrepancies:

Was the material spilled a listed waste?

Yes _____ No _____

If "YES", identify:

_____ P List?

Yes _____ No _____

_____ U List?

Yes _____ No _____

_____ F List?

Yes _____ No _____

_____ K List?

Yes _____ No _____

Explain discrepancies:

Was material spilled a characteristic waste?

Yes _____ No _____

If "YES", identify:

_____ Flammable?

Yes _____ No _____

_____ Corrosive?

Yes _____ No _____

_____ Reactive?

Yes _____ No _____

_____ Toxic?

Yes _____ No _____

Explain discrepancies:

Exposures

Did incident allow exposure to public?

Yes _____ No _____

Were people exposed to chemical hazard?

Yes _____ No _____

If "YES", how many (approximate) _____

Were all people exposed prime contractor employees?

Yes _____ No _____

If "NO", identify:

_____ Outside contractor?

Yes _____ No _____

_____ Outside governmental employee?

Yes _____ No _____

_____ Independent researcher?

Yes _____ No _____

_____ University?

Yes _____ No _____

_____ Visitor to site?

Yes _____ No _____

_____ Persons not involved with prime contractor?

Yes _____ No _____

Explain discrepancies:

Were people exposed given medical attention?

Yes _____ No _____

If "YES", identify:

_____ First aid?

Yes _____ No _____

_____ Nurses attention?

Yes _____ No _____

_____ Doctor's evaluation?

Yes _____ No _____

Explain discrepancies:

Were people exposed to chemical hazards?

Yes _____ No _____

If "YES", identify exposure:

_____ Inhalation?

Yes _____ No _____

_____ Ingestion?

Yes _____ No _____

_____ Absorption?

Yes _____ No _____

_____ Injection?

Yes _____ No _____

Explain discrepancies:

If ingested, how much:

_____ <1 Gram?

Yes _____ No _____

_____ <10 Grams?

Yes _____ No _____

_____ >10 Grams?

Yes _____ No _____

_____ Unknown?

Yes _____ No _____

Explain discrepancies:

If inhaled, how long:

_____ <10 Seconds?

Yes _____ No _____

_____ <1 Minute?

Yes _____ No _____

_____ <5 Minutes?

Yes _____ No _____

_____ >5 Minutes?

Yes _____ No _____

_____ Unknown?

Yes _____ No _____

Explain discrepancies:

Medical

Were any medical tests performed?

Yes _____ No _____

If "YES", describe:

Was any medication administered?

Yes _____ No _____

If "YES", describe:

Is continued medical surveillance necessary?

Yes _____ No _____

If hazardous substances are used in work processes, is a medical or biological monitoring system in operation?

Yes _____ No _____

Do employees complain about dizziness, headaches, nausea, irritation, or other factors of discomfort when they use solvents or other chemicals?

Yes _____ No _____

Is there a dermatitis problem?

Yes _____ No _____

Do employees complain about dryness, irritation, or sensitization of the skin?

Yes _____ No _____

Emergency Response

Has situation been controlled?	Yes _____ No _____
Was there a Reportable Quantity (RQ) involved?	Yes _____ No _____
Was the National Response Center (NRC) notified?	Yes _____ No _____
Has spill been contained?	Yes _____ No _____
Has all material involved in spill been cleaned up?	Yes _____ No _____
If water was contaminated, was it in a contained system?	Yes _____ No _____
Have all chemical reactions stopped?	Yes _____ No _____
Have all incompatible materials been separated?	Yes _____ No _____
Is there a continuing threat to people?	Yes _____ No _____
Is there a continuing threat to property?	Yes _____ No _____
Is there a continuing threat to systems?	Yes _____ No _____
Is spill cleanup material properly?	Yes _____ No _____
_____ DOT packaged for disposal or reclamation?	Yes _____ No _____
_____ RCRA and DOT labeled for transport?	Yes _____ No _____
Are cleanup debris containers free of contamination?	Yes _____ No _____
Were cleanup crews properly protected from hazards of spill?	Yes _____ No _____
If "YES", identify protection:	
_____ Level A?	Yes _____ No _____
_____ Level B?	Yes _____ No _____
_____ Level C?	Yes _____ No _____

Explain discrepancies:

Policies/Procedures/Standards/Risk Assessment

Were the workers aware of hazards?	Yes _____ No _____
Were others that were exposed aware of hazards?	Yes _____ No _____
Was the material involved understood (chemical composition, structure, status, etc.)?	Yes _____ No _____
Were the systems involved in incident understood?	Yes _____ No _____
Were the systems being stressed (rushed, compromised, etc.)?	Yes _____ No _____
Are employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, etc.?	Yes _____ No _____
Are employees aware of the potential hazards involving various chemicals stored or used in the workplace such as acids, bases, caustics, epoxies, phenols, etc.?	Yes _____ No _____
Have standard operating procedures been established and are they being followed when cleaning up chemical spills?	Yes _____ No _____
Are there written standard operating procedures for the selection and use of respirators where needed?	Yes _____ No _____
If there exists a respirator protection program, are employees instructed on the correct usage and limitation of the respirators?	Yes _____ No _____
Are employees prohibited from eating in areas where hazardous chemicals are present?	Yes _____ No _____
Are employees familiar with the Threshold Limit Values (TLV) or Permissible Exposure Limits (PEL) of airborne contaminants and physical agents used in the workplace?	Yes _____ No _____

Have control procedures been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems, handling practices, etc.? Yes _____ No _____

Has the operation been evaluated by an industrial hygienist or environmental health specialist? Yes _____ No _____

Explain discrepancies:

Hazard Control

Is employee exposure to chemicals kept within acceptable levels? Yes _____ No _____

Are all containers, such as vats, storage tanks, etc., labeled as to their contents, e.g., "CAUSTICS"?" Yes _____ No _____

Are flammable or toxic chemicals kept in closed containers when not in use? Yes _____ No _____

Are chemical piping systems clearly marked as to their content? Yes _____ No _____

Where corrosive liquids are frequency handled in open containers or drawn from storage vessels or pipe lines, is adequate means readily available for neutralizing or disposing of spills or overflows properly and safely? Yes _____ No _____

Whenever possible, are hazardous substances handled in properly designed and exhausted booths or similar locations? Yes _____ No _____

Are general dilution or local exhaust ventilation systems in place to control dusts, vapors, gases, fumes, smoke, solvents, or mists which may be generated in the workplace? Yes _____ No _____

Is ventilation equipment provided and is it operating properly for removal of contaminants from such operations as:

____ production grinding? Yes _____ No _____

____ buffing? Yes _____ No _____

____ spray painting? Yes _____ No _____

____ vapor degreasing? Yes _____ No _____

If internal combustion engines are used, is carbon monoxide kept within acceptable levels? Yes _____ No _____

Whenever possible, is vacuuming used rather than blowing or sweeping dusts for cleanup? Yes _____ No _____

Are materials which give off toxic asphyxiant, suffocating or anesthetic fumes, stored in remote or isolated locations when not in use? Yes _____ No _____

Explain discrepancies:
