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PLAINTIFF'S EXHIBIT
UC-1374

INTERNAL CORRESPONDENCE

MINING AND METALS DIVISION

P. O. BOX 1949, GRAND JUNCTION, COLORADO 81501

To (Name) Messrs. R. J. Kronkhyte
Division F. H. Larrison
Location H. F. Reichard
W. C. Thurber

Date September 27, 1974

Originating Dept. Safety

Answering letter date

Copy to Mr. J. F. Emerson

Subject King City Safety Audit
October 16-17, 1974

Gentlemen:

We are planning the safety audit at King City as previously indicated for Wednesday the 16th of October and as much of a portion of the 17th as necessary. The audit team, composed of myself, Reichard, and Thurber, should arrive King City some time the evening before and the other members will advise you of their housing needs. We will assemble at 8:00 a.m. on the 16th at the plant ready to go. The schedule I would like to use this year is as follows:

1. First thing in the morning, the 16th, we will review and discuss recommendations from last year's audit. Plant personnel should tell us and show us what action has been taken on the audit recommendations. We would like to be advised both verbally and by copies of information relating thereto of changes in the program, activities, rules, procedures, etc., since the 1973 audit. We will not want a complete new package of material but would like for each auditor to receive copies of things which have changed or are new. This review will probably take the first two or three hours of the morning the 16th.

2. Following the program review the audit team would like to conduct a physical inspection of the plant facilities, probably as a group by spending two or three hours looking over the installation and changes that have been discussed previously.

3. After the physical inspection the audit team will split with each auditor to be accompanied by a plant supervisory management person (probably Larrison, Kronkhyte, and Marsten). We can divide the operating areas into three general locations and each group of two people (auditor and guide) can conduct personal contact interviews with each of the persons working in that area; both supervisory and hourly. These contacts should be directed toward discussing the individual's reaction and understanding of safety, how he relates to the total safety program, his feelings about what the company has done, etc. Copies of suggested safety questions are attached herewith for the

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auditors use and plant management's general inforamtion. We should complete the interviews of as many people as possible that day. This may involve staying on to swing shift for an hour or so.

4. Paul McDaniel and Dr. Welsh will arrive the morning of October 17, probably about 8:30 a.m., for the purpose of joining with the others in discussion of the dust sampling and record keeping program. The objective is to reach a final decision of how we will go about the sampling and record keeping. We should be able to resolve this in an hour or so. I understand that Mr. Thurber wishes to leave to be in Los Angeles on the afternoon of the 17th. Hal Reichard has indicated a desire to visit the mine site which we hope can be done during the 17th, weather and scheduling permitting.

The above audit outline steps (except the dust meeting) have been used in other audits this year and have been valuable in developing appreciation of how our workers react to safety and what their needs, attitudes, etc., are in this regard. I feel confident that this procedure will work well for King City and probably will provide the information which is valuable to the plant management group. Looking forward to seeing you at 8:00 a.m. on October 16.

Very truly yours,



E. A. Piersall

EAP/brs

Managers Safety Audit

Suggested Questions for Supervisors

- How do you feel safety performance affects your personal evaluation, pay, promotability? Are factors being applied fairly in our system?
- What is your personal safety specific objective for 1974; next five years?
- Do you get support help in performing your safety program requirements - JSA, meetings, contacts, repairs, discipline?
- Do production demands override safety?
- Do Labor-Management relationships pose safety problem? (Union action, Safety Committee Steward, worker challenge safety of job?)
- What are the areas of weakness in our Safety Program?
- How do you report your safety efforts to your boss (scheduled, form, impromptu)?
- What safety orientation training do you give your new employees - when, how, who, where? How about post indoctrination training?
- How do you handle safety suggestions received: a) Procedure change needed, b) Physical change needed?
- What are most important hazards that concern you?
- Is work permit/lockout adequate to protect your people - why?
- What safety training is required of foremen?
- Do you have sufficient authority to accomplish your responsibilities in safety? Why (not)?
- How do you get best safety results when dealing with hourly employees (talk, written instructions, threats, discipline, correct things promptly, job observation, etc.)?
- How do men react to safety meetings, contacts, observations?
- What is best way to change long term unsafe work habits?
- Do we have accident prone 'individuals'? If so how serious is their affect on accident experience?

Managers Safety Audit

Suggested Questions for Hourly Employees

- Does your supervisor talk to you about safety? How often? What was last discussion about?
- How do you feel about supervisor job observation? Is this done often?
- Are safety rules clear and sufficient? When did you last review them?
- Are there any parts of your job that you consider unsafe? Are there rules or procedures covering them? What is needed?
- How do you get help on a safety problem affecting your job?
- What is potentially most hazardous part of your work? How is this hazard controlled?
- What was last safety training you got? When? How? By whom?
- What is your opinion of our safety award program (jacket or gift certificate, NY trip, local contest if any)?
- What do you think about he value of safety meetings? Why? How can they be improved?
- What has had the greatest emphasis on getting you to work safely?
- Describe these typical safety procedures:
    a) Lockout
    b) Safe entry into tank or bin
    c) Fire permit
    d) Work on dusty or gassy area
- What should the Company do (new or more emphasis) to make a significant reduction in accidents?

Union Carbide Corporation - Mining and Metals Division

Management Safety Audit
Plant Inspection Tour Guide

This guide is not intended as a detailed check out. However, it may be helpful in suggesting areas of concern that should be considered when conducting the physical inspection portion of a safety audit.

1. WALKING AND WORKING SURFACES

Consider here the general condition of the floors. Are they in good repair, clean and unobstructed. Are open sided work surfaces such as loading docks and pit platforms properly guarded - railings, toe, boards, and safety chains should be considered. At junctions of passageways is vision unobstructed.

Are stair treads and risers in good repair? The corners and edges should be unbroken and even. Tread surfaces should be anti-skid. All stairs should have approved handrails in good repair. Consider head clearance - is there any danger of bumping the head? Are the stairs clean and free of debris? Is lighting adequate.

2. ILLUMINATION

Rarely is too much illumination provided. Consider: is the level of illumination adequate for safe seeing. That is, can hazards be readily and promptly identified in the existing level of illumination? Temporary lighting is not an excuse for inadequate levels of illumination.

3. LADDERS AND SCAFFOLDS - FALL PREVENTION

What is the condition of the ladders or scaffolds? Are they worn, bent, splintered, rusted? Are fixed ladders in good repair, properly guarded, or correct type? What safety devices are on ladders and scaffolds (tied, cleated, etc.) How about ropes and pulleys on extension ladders and scaffolds? Are "makeshift" ladders and scaffolds permitted? Are employees working in elevated positions (>4' above floor) adequately protected by handrail, barrier, safety belt, etc.)

4. VENTILATION

Consider presence of odors. Also consider temperature and humidity. Can and should any of these be changed? Where specific air contamination from volatiles, fumes, dusts, mists and the like exist is adequate local ventilation provided?

5. BUILDING EXITS AND LIFE SAFETY

Of great importance is exit discipline and housekeeping. Exits should be clearly marked, absolutely unobstructed and in good working order.

Examine the emergency lighting facilities. A demonstration is in order. Also, the fire alarm system should be reveiwed. Check both automatic and manual means.

When was the last fire drill? How was it conducted?

6. FIRE SUPPRESSION EQUIPMENT

Check inspection tags and valve positions on sprinkler systems. Look at fire hoses: if of unlined type they should appear in good condition and be protected from mechanical damage on an approved rack (unlined hoses normally are not tested regularly usually being considered "one shot" expendible items). Lined hoses should be tested and have an inspection tag prominently displayed. Fog type nozzles are preferred to simple "jet" nozzles.

Fire extinguishers should be types consistent with the hazards in their areas and should be positioned for easy handling, and be hung at normal hand height unless some peculiarity of the area makes other positioning more practical. Inspection (per tag) should be within one year and hydrostatic test should be indicated. Check areas of potential explosion hazards. What devices are used to test and control hazards or provide warning.

7. ELECTRICAL WIRING, APPARATUS AND EQUIPMENT

All receptacles and portable cords should have grounding provision. Equipment should be equipped with equipment or frame grounding. Equipment must be startable from one location only. Control panels and switches are to be marked to identify what they control and doors or covers should be locked. Insulated mats should be on the floors in front of switch control panels.

Is equipment in poor state of repair permitted to operate?

Lockout must be used for any repair work done on electically controlled equipment.

8. BOILERS, HEATING, VENTILATING AND COOLING EQUIPMENT PRESSURE VESSELS AND PIPING

Almost all of these items are covered by strict codes. Are inspection certificates up to date? Housekeeping and general state of repair are important indicators of safety in this area. Pay special attention to provisions for rapid emergency escape of personnel.

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9. CRANES, HOISTING MACHINERY, ELEVATORS, ETC.

Check to see that inspection certificates are up to date where required.

Hoisting equipment not subject to inspection authorities should be checked for general condition and repair. Slings, yokes, drum clamps, hooks, safety latches, cable, controllers, safety switches, etc., bear close attention.

10. SANITATION

Examine washroom, locker room, and sanitary facilities. Well ventilated, clean, odor free? Check commodes - securely fastened to floor? Leaking wastepipes? Soap and towel facilities adequate for number of people?

Examine eating areas. Clean and well ventilated?

11. MEDICAL AND FIRST AID FACILITIES

The medical personnel should be questioned to determine if there are any pressing needs which should be considered in the safety and health program.

There should be adequate first aid equipment strategically located about the plant. Each area should have a competent first aider on every shift. Is first aid equipment stocked and in good condition?

Pay particular attention to the need for and presence of emergency showers and eye wash facilities. Are they accessible and in good operating condition?

12. MATERIAL HANDLING

This deals with the condition, operation of, maintenance and repair of such equipment as: conveyors, hoists, and mobile equipment, i.e., trucks, cars, forklifts, end loaders, etc.

When equipment is operating do automatic warning devices activate? Bells, horns, flashing lights, etc.?

Our Minimum Standards for mobile equipment require:

a) Operator training and qualification on list.

b) Inspection procedure of equipment.

c) Special equipment including 1) device to prohibit activation from ground, 2) operator overhead guard, 3) forward reverse lights if operated in dark areas and, 4) back-up alarm if view to rear is obstructed or if operated close to pedestrians.

Do flagmen accompany blind loads or serve as safety monitors in blind areas?

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13. POWERED HAND AND MACHINE TOOLS

Look for absence of guards, poor or no electrical grounds, unguarded rotating parts, open belts, flywheels with unshielded spokes, pinch and nip points, screens and guards to contain flying parts, chips or particles. LOOK FOR OPPORTUNITIES WHERE A PERSON COULD INSERT A BODY MEMBER AND RECEIVE PHYSICAL INJURY. DO NOT ANTICIPATE THE USE OF COMMON SENSE ON THE PART OF EITHER OPERATOR OR PASSERS-BY.

Is compressed air properly reduced (below 30 PSI) for use in blow guns. Special flow control nozzles are acceptable, but they must be self-regulating.

14. MATERIAL HAZARDS

Consider the adequacy of control measures for: gases, vapors, fumes, dusts, mists, paint sprays.

Be particularly alert to the presence of combustible dust, radiation hazards, flammable liquids, acids, caustics, toxic materials, oxidizing agents, and explosives.

Compressed and liquified gas cylinders and containers MUST be secured against being knocked over or falling and must have their safety caps securely screwed in place whenever there is not a regulator attached.

15. MATERIAL STORAGE

Consider fire protection, outdoor storage, tiering, and mixing. Security against pilferage, deterioration, damage, and personnel hazards must be taken into account.

Housekeeping is a prime indicator of good management in this area. Haphazard storage of materials creates safety problems, can initiate fires, can harbor vermin.

16. CHEMICAL STORAGE AND USE AREAS

These areas tend to become cluttered. Dangerous liquids and fumes exist. Flooring may become wet and slippery. Equipment deteriorates rapidly if not well maintained. Good ventilation, housekeeping, deluge showers, and eye wash fountains are a must. Equipment for handling bulk chemicals should be adequate and in good repair - no makeshift devices should be present. Pumps, piping, connections, valves, gauges, etc., bear attention.

17. PERSONAL PROTECTIVE EQUIPMENT

Protective clothing must be the right type for the hazard exposure. The safety glasses hard hats and safety shoes should be considered as each department is inspected. Ear protective devices, splash or dust clothing, respiratory protective masks, chemical goggles, gloves, etc., are all proper subjects for consideration under this heading.

Is long hair adequately controlled so it is not an entanglement or fire hazard. Are persons with beards wearing respiratory equipment; if so what assurance is made that leakage does not exist.

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18. WELDING, CUTTING, HEATING, BRAZING

The gas processes involve the safe storage and handling of compressed gas cylinders and related equipment. Pay particular attention to the condition of the equipment. Hoses, nuts and ferrules, torches, nozzles. Signs of abuse or deterioration are indicators of safety problems. Gas handling discipline and general housekeeping should be scrutinized.

The electric welding processes can also have gas handling problems including cylinder discipline, care and maintenance of gas hoses, care and maintenance of welding torches and mechanical welding heads. In addition there are the hazards of electricity. Power supplies are commonly fed from three phase 440 Volt lines. Disconnects should be convenient and in good repair. Welding circuits can range from less than 10 volts to over 100 volts. The welding current can be AC or DC. Bare conductors, crushed insulation, wet floors, congestion in travel-ways and welding without proper protection of personnel in the area can lead to accidents.

Welders must wear specialized protective clothing. Welders are required to wear safety goggles under their welding hoods. With the hood lifted the welder's eyes are open to chips popping off the weld or slag driven up by his chipping hammer.

Chlorinated Hydrocarbons (Trichlor and the like) should never be near a welding area. Any metal so treated should be well aired before welding is started. Solvents trapped in cracks and pores of the metal will gas off during welding.

All welding sites should have adequate fire extinguisher coverage.

19. INDUSTRIAL ENVIRONMENT

This is the "catch-all" topic. Your attention should be toward general employee safety, health and comfort. As affected by ventilation, lighting, toxic material, gases, fumes, dusts, etc.

In addition, safety precautions with regard to confined spaces (bins, pits, or tanks) should be considered. The use of a safety man and safety lines to protect employees who enter these areas. Preventilation and testing to purge toxic or other fumes. The use of supplied air masks or self contained breathing apparatus. Safety approval after testing and before entry of employees. Availability of resuscitator in case of need. M&M Minimum Standard No. 2 specifies our requirements.

20. CONTRACTOR SAFETY

Are contractor jobs being performed in a manner that will protect our people and property? Check to insure that "special contractor safety rules" are provided by the plant, understood by contractor representatives and applied by contractor employees.

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