

Health and Safety Plan

DeMenno/Kerdoon & Affiliated Companies Including:

DeMenno/Kerdoon
D/K Environmental
Advanced Environmental, Inc.
Asbury Environmental Services

Prepared For:

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HEALTH & SAFETY PROGRAM PLAN

This procedure serves to describe the overall Health and Safety Program for DeMenno/Kerdoon and its Affiliate Company (D/K Environmental). Whenever the name DeMenno/Kerdoon (D/K) and/or D/K Environmental (DKE) is used in this document, it is inferred that it includes all Affiliated Companies. The policies and procedures that follow are the vehicle through which this safety program is implemented as well as providing the health and safety organization a tangible audit measure.

This plan is a living document that will be revised from time to time to reflect improved practices, regulatory changes, and recommendations by regulatory agencies. Revisions to this document do not require approval by any governmental agency.

1.1 SAFETY ORGANIZATION

The safety program for the company is administered by the Safety Director who heads the company Health and Safety Department. The Safety Director is responsible for establishing safety procedures and protocols at the company.

1.2 SAFETY RESPONSIBILITY

The safety and protection of employees, clients, and the community is the company's first priority. This concern for safety is not exclusive to process operations but extends to the office surroundings, and laboratories. If an operation or activity is unsafe, this operation or activity will not be attempted until conditions are made safe.

The responsibility for operational safety is delegated to the operations manager, and the supervisors. They are the primary safety officials at the working level. The Safety Director is responsible to ensure that the primary safety officials are carrying out operational safety in an effective manner. Every employee, regardless of job title, shares the responsibility for safety. Both favorable and unfavorable safety reports and audits will be entered into an employee's personnel file. These will be reviewed and weighed during salary and promotion evaluations.

1.3 PRIMARY SAFETY DEPARTMENT FUNCTIONS

The primary functions of the Health and Safety Department follow:

- Administer medical surveillance program;
- Generate site safety plans for work sites;
- Provide safety training/maintain training records;
- Audit safety procedures and protocols;
- Maintain OSHA accident investigations and records;
- Verify OSHA compliance under 29 CFR 1910 and 1926;
- Verify EPA compliance under 40 CFR 311, 355, and 370;
- Assist with preparation of safety protocols for specific tasks;
- Provide site safety officers, as required;
- Provide safety literature;
- Promote safety and health within the company; and,
- Act as internal health and safety consultants.

In an effective safety organization, the role of the safety professional is as an advisor and consultant and the role of assigned health and safety personnel should be directed to that effort.

1.4 REGULATORY COMPLIANCE

The policy of this company will be to comply with all local, state, and federal regulations to the best of our ability. It is the responsibility of all personnel to perform all work in full compliance with regulations, Health and Safety personnel will bring any concern regarding health and safety compliance to the attention of supervisory operating personnel immediately.

1.5 SAFETY GOALS

The goal of the Health and Safety Department is to ensure a safe working environment, protect workers from harm, and protect the company from that liability associated with an unsafe working environment. other goals are to eliminate workplace accidents, gain worker acceptance through cooperation and training.

1.6 SAFETY TRAINING

All employees coming in contact with hazardous materials are required to complete the initial 24-hour OSHA/hazardous worker training required by 29 CFR 1910.120. Additional Personnel who serve as Emergency Response Team members receive the 24-hour OSHA/hazardous waste clean-up course. All training conducted at the company is in accordance with the Operations Plan for Hazardous Waste Management, Section IX, Personnel.

1.7 GENERATE SITE SAFETY PLANS

A written site safety plan is required at all facilities or locations at which hazardous waste operations occur. This site safety plan should generally conform to that required by 29 CFR 1910-120(b) (1) (n) "Site Specific Safety and Health Plan Chapter."

Generally, a representative of the Health and Safety Department will prepare the safety plan before site work commences. In a-n emergency, however, the site supervisor or acting site safety officer may be required to generate an interim site safety plan until a representative of the Health and Safety Department arrives on scene or develops a plan.

1.8 MEDICAL SURVEILLANCE

All employees who perform work at hazardous-waste sites or perform emergency response will be subject to the medical surveillance program. This program conforms to 29 CFR 1910.120(f) Medical Surveillance. A copy of the Medical Surveillance Program is included as Health and Safety Plan, Section No. 6.

1.9 ACCIDENT INVESTIGATION

All accidents will be thoroughly investigated by the supervisor of the person(s) involved in the accident. The employee, the supervisor, and the Safety Director will sign the accident investigation form. The form must be submitted to the Health and Safety Administrative Office to comply with OSHA requirements. Instructions for completing the investigation are found on the form. A copy of the Employee Incident Report is in Health and Safety Plan, Appendix B.

Serious accidents such as those involving hospitalization or injuries requiring more than one visit to a physician may be investigated by the Health and Safety Department. The Safety Director may also request that a specific written accident investigation be conducted in the event of an unusual or serious injury or accident.

1.10 SITE INSPECTION

Weekly inspections will be made of the work area. The inspection will be made by the supervisor, his designated alternative, or Safety Director. Discrepancies found during inspections will be corrected as soon as practicable. Serious safety violations will be corrected immediately. An inspection record will be maintained. The inspection will be guided by the site safety inspection check off list.

1.11 FIRST AID

Each work site must be evaluated to determine the potential requirement for medical emergencies. At a minimum, an industrial first aid kit will be provided as well as a Red Cross trained employee. We will strive to ensure that a minimum of 10 percent of the employees are first aid and CPR

trained and their training is current. Supervisors will ensure that the telephone numbers for ambulance service and hospital emergency room are posted near each phone on the work site and ensure that the numbers are correct. Additionally, a map indicating the route to the designated hospital emergency room will be posted in the Health and Safety Administrative Office.

1.12 SITE SAFETY OFFICER

1.12.1 Responsibility of the Site Safety Officer

The site safety officer (usually the supervisor), in conjunction with the Safety Director, is generally responsible to prepare the site safety plan. He is also responsible to ensure that personnel are made aware of the hazards presented by each job site. The best way to communicate these hazards is by requiring that all personnel read and initial or certify that they have read and understand the plan. The initial site safety meeting should address the content of the site safety plan. The site safety plan will be reviewed with personnel new to the project.

1.12.2 Authority of the Site Safety Officer

Health and safety personnel have the authority to suspend any activity or project they deem to be inherently unsafe. Work will not resume until the project or activity is brought into compliance. Any disputes over such matters will ultimately be decided upon by the Safety Director and the Operations Manager.

1.13 REVIEW OF HEALTH AND SAFETY STATISTICS

Supervisors will be required to review accident statistics for their work sites. These statistics will be furnished to the Health and Safety Department, on a periodic basis as follows:

- Quarterly - Accidents by the different facilities (OSHA recordable);
- Annually - OSHA 300 Form (post for month of February) Accident/injury rates.

1.14 SPECIFIC WRITTEN SAFETY PROCEDURES/PERMITS

1.14.1 Safety Procedures

The following written safety procedures have been prepared in order to ensure that the various operations at DeMenno/Kerdoon and/or DKE and are conducted safely and/or that the operations are conducted in full compliance with OSHA/EPA regulations.

All DeMenno/Kerdoon personnel will be aware of these safety procedures and comply fully with all the requirements.

1.14.2 Permits

The following procedures require that a permit be completed before the work can be undertaken. The permit procedure is required in order that operating personnel can ascertain that the specific task can be safely accomplished after requirements are met.

Confined Space Entry
Hot Work Permit

SITE SAFETY PLAN

2.1 POLICY

A site safety plan will be prepared prior to the initiation of all work related to Hazardous Waste. Exceptions are activities described in Health and Safety Plan Section No.3, "Contingent Site Safety Plans".

2.2 PURPOSE

This procedure outlines the minimum requirements for preparing a site safety plan.

2.3 GENERAL REQUIREMENTS

2.3.1 The site supervisor is responsible for assuring that a site safety plan is prepared.

2.3.2 Employees involved in working on work-sites involving hazardous materials will be trained in the contents of the site safety plan prior to work on site.

2.3.3 The site safety plan will be available on the work site for inspection by employees, clients, or OSHA personnel.

2.3.4 The site safety plan will address at a minimum the following items:

- Names of key personnel responsible for site health and safety. The site supervisor is usually the designated site safety officer;
- An area map showing the site;
- Establishment of work zones, including a site map;
- A health and safety hazard evaluation for each site task and operation, including chemical and physical hazards,
- Personal protective equipment requirements;

- Contaminant monitoring requirements, if applicable;
- This includes frequency and type of air monitoring, techniques and instrumentation to be used, and methods of maintenance and calibration of the instrumentation;
- Actions to be taken if monitoring indicates that the level of protection is not adequate;
- Decontamination procedures;
- A contingency plan for safe and effective responses to emergencies including necessary personal protective equipment and other equipment;
- Medical surveillance;
- Training requirements;
- Confined space entry requirements, if applicable;
- Material Safety Data Sheets (MSDS) for chemicals present on site; and,
- Site specific standard operating procedures.

All site safety plans will be reviewed by the Safety Director.

CONTINGENT SITE SAFETY PLAN

3.1 POLICY

Site safety plans will be developed for all work sites which may involve exposure to hazardous materials. Certain activities, however, may occur prior to preparation of the site safety plan.

3.2 PURPOSE

This procedure describes minimum requirements for conducting activities where no site specific safety plan exists.

3.3 REQUIREMENTS

3.3.1 Only on-site activities which do not involve exposure to hazardous materials may be conducted prior to preparation of the site safety plan.

3.3.2 If a possibility for exposure exists prior to preparation of the site safety plan, the operation must be approved by the Safety Director who will specify appropriate protective measures including personal protective equipment.

3.3.3 Employees performing work on sites prior to issuance of a site safety plan or on sites not requiring a site safety plan are to comply with all provisions of these procedures, including medical surveillance and training.

3.3.4 As a minimum, employees will obtain and comply with any DeMenno/Kerdoon and/or DKE health and safety procedures which may apply. These may be in the form of standard operating procedures, health and safety procedures, or General Safety Rules.

GENERAL SAFETY RULES

4.1 POLICY

The following rules generally apply in all areas.

4.2 PURPOSE

This procedure provides all personnel with a list of fundamental safety rules not specifically covered in other health and safety procedures.

4.3 GENERAL HEALTH AND SAFETY RULES

4.3.1 Each work area will have the appropriate signage, labels, and warnings posted prominently in places where the risk of hazardous chemical exposure may exist to an individual.

4.3.2 Each employee, as a condition of employment, is required to comply with the health and safety procedures and the site safety plan governing in each area the employee is required to work.

4.3.3 Site supervisors are to review records of each employee to be assigned to work on work-sites involving hazardous materials and assure that all requirements pertaining to health and safety such as medical surveillance and training are being met.

4.3.4 No one will initiate work involving hazardous materials until appropriate training as required by regulation, and/or health and safety procedures have been implemented.

4.3.5 All employees are directed to immediately bring to the attention of the site supervisor or the Safety Director any unsafe condition, practice or circumstance.

4.3.6 The following practices are expressly forbidden during operations on hazardous material sites:

- Smoking, eating, or drinking while on work sites except in designated areas;
- Ignition of flammable or reactive materials;

- Entry on work-site without proper safety equipment;
 - Conduct of operations on work sites without backup personnel as described in the site safety plan;
 - Wearing of facial hair which may interfere with a ,respiratory seal on the job site which may require respiratory protection; and,
 - Wearing of contact lenses.
- 4.3.7 Daily safety meeting will be held at hazardous materials sites to review Site hazards, changes in levels of personnel protective equipment, special safety precautions and emergency response per the site Health and Safety Plan.
- 4.3.8 Every accident is to be reported to shift supervisor immediately whether or not anyone is injured.
- 4.3.9 Employees may not alter or attempt to repair any item of safety equipment unless specifically authorized and qualified.
- 4.3.10 An employee must not attempt to move or lift heavy or bulky objects beyond his capacity.
- 4.3.11 Possession or use of intoxicants or drugs on company premises or work-sites is prohibited. Employees may not report for work or perform duties while under the influence of intoxicants or drugs. Prescription drugs are to be reported to the site supervisor and shall not Impair the ability of the worker to work safely.
- 4.3.12 Walking under or working under a suspended load is not permitted.
- 4.3.13 Legible and understandable precautionary labels will be prominently affixed to containers or raw materials, intermediates, products, by-products, mixtures, scrap, waste, debris, and contaminated clothing, per DOT, EPA, OSHA or other applicable regulations.

- 4.3.14 A sufficient number of fire extinguishers, as determined on site, will be strategically located throughout the areas where active work is progressing so as to limit the travel distance by personnel to less than 75 linear feet.
- 4.3.15 All personnel will avoid contact with potentially contaminated substances. Walking through puddles or mud, kneeling on the ground, or leaning against drums is to be avoided.
- 4.3.16 Monitoring equipment will not be placed on potentially contaminated surfaces.
- 4.3.17 Personnel on site will use the "buddy" system (pairs). Buddies should prearrange hand signals for communication in case of lack of radios or radio breakdown. Communication or visual contact will be maintained between crew members at all time.
- 4.3.18 Contaminated protective equipment will not be removed from the regulated area until it has been cleaned or properly packaged and labeled.
- 4.3.19 Employees will not be permitted to exit the contamination reduction zone until contaminated clothing and equipment have been removed and employees have washed their hands and face with soap and water. The exception is in an emergency situation.
- 4.3.20 Removal of materials from protective clothing equipment by blowing, shaking, or any other means which may disperse materials into the air is prohibited.
- 4.3.21 Portable or fixed emergency shower/eyewash stations may be required by the site safety plan for the regulated area.
- 4.3.22 A deluge shower or hose and nozzle will be available in the contamination reduction zone to wash down heavily contaminated personnel before doffing protective clothing.
- 4.3.23 As appropriate, equipment on site will be bonded and grounded spark proof, and explosion resistant. Ground fault interrupters will be utilized. See Health and Safety Plan, Section No. 23 "Electrical Safety".

- 4.3.24 Safety belts and tie offs are required for all elevated work such as scaffolding or manlifts. See Health and Safety Plan, Section No. 26.
- 4.3.25 Guard rails and toe boards will be in place for all work on elevated platforms exceeding 6 feet in height.
- 4.3.26 Accidents and injuries can and do occur in office environments. Attention and safety awareness are important in offices as well as job sites. Some commonly violated office safety rules include:
- Aisles, passageways or corridors are not to be blocked at any time;
 - Desk drawers, cabinet doors and file cabinet drawers are to be kept closed when not in use;
 - Use a proper platform, not a swivel chair for reaching high places; and,
 - Fire extinguishers are to be readily available.

ACCIDENT/INJURY INVESTIGATION

5.1 POLICY

All injuries and accidents will be reported promptly to the site supervisor or the Safety Director and will be documented.

5.2 PURPOSE

This procedure provides instructions for reporting and documenting accidents, injuries, and work-related illness.

5.3 PROCEDURE

5.3.1 Reportable incidents include, but not limited to:

- Injuries to personnel of any magnitude;
- Tool or equipment failure which results or could result in serious injury;
- Fire or explosion of any magnitude;
- Exposure of unprotected personnel to toxic agents;
- Vehicle accidents; and,
- Any damage to client or private property.

5.3.2 All injuries/illness, no matter how minor they may appear, are to be reported immediately to the employee's immediate supervisor. The supervisor should then see to it that the incident is logged and properly reported.

5.3.3 Under no circumstances should an injured employee drive himself/herself to the hospital, clinic, etc. An employee with a minor injury may be transported by car after first aid treatment is given. Any injury that is not minor, or when in doubt concerning severity of injury, then the employee should be transported by ambulance.

5.3.4 Injured employees which require medical treatment or in which the employee was taken to a doctor, hospital, clinic, etc., should not be allowed to resume work without a written return to work and any work statement from the treating physician. This statement should give diagnosis, date of return to work and any work limitations. Should a statement such as "light duty" be given, call the treating physician to determine the exact restriction that is needed. Be sure the treating physician understands the type of work the employee normally performs and that alternate work is available to meet work restrictions.

5.3.5 The Human Resources Manager and the Safety Director are to be notified immediately of any lost time accident.

5.3.6 All bills and receipts for medications and pharmacy supplies pertaining to work related injuries should be sent to the attention of the personnel department which handles worker's compensation claims. The employee should write on the bill or receipt the date of the injury and diagnosis.

5.4 FORMS AND REPORTING PROCEDURES

5.4.1 Injury/Illness Log

The Injury/Illness Log is to be kept at the Personnel Office. All injuries, no matter how minor they appear, are to be logged. Minor injuries such as small cuts, scrapes, small first degree burns, and splinters that require only first aid treatment, are entered on this log only. Any incident that requires the completion of the Employee Incident Report as described below must also be logged. Maintaining this log will help in meeting OSHA record keeping requirements and in responding to minor incidents before they become major. An example of an Employee Incident Report is attached as Appendix B.

5.4.2 Employee Incident Report

An Employee Incident Report is to be completed in the following work related circumstances:

- Any work-related injury involving muscles and joints (sprains/strains);

- All work-related back injuries;
- All work-related chemical exposures;
- All work-related injury/illness which involves medical treatment (treatment by doctor, hospital, clinic, chiropractor, dentist);
- Any work-related accident that results in death of an employee;
- Any incident that involves property damage but not necessarily employee injury; and,
- Any work-related incident (near miss) in which an injury could have occurred, requires attention that is needed to prevent similar incident, from occurring and preventing an injury accident.

Note: Minor injuries such as scrapes, small cuts, small splinters that require first aid treatment only, do not require completion of the Employee Incident Report. However, should condition of injury change and require medical treatment, then a report must be completed. If in doubt as to how to classify an injury (first aid or medical), complete the Employee Incident Report.

The Employee Incident Report is to be completed the day of the injury/incident, including any and all witness statements.

The supervisor shall:

- Notify the Safety Director of the injury/incident;
- Complete the report within 24 hours of the occurrence;
- Have involved employee(s) review and sign the report; and,
- Retain a copy of the report for facility records.

- Notify the Human Resources Manager of the injury/incident;
- Obtain additional information as needed for investigation of the occurrence (photographs, diagrams, witness statements, doctor slips, etc.);
- Send a copy of the report to the Personnel Department which handles worker's compensation for the injured employee;
- Retain a copy in the employee's medical file; and,
- Retain a copy for his file.

5.5 RETURN TO WORK/AUTHORIZATION FOR RELEASE OF MEDICAL RECORDS

The following two forms are to be completed whenever an injured/ill employee is given treatment at a hospital, clinic, doctor's office, etc. These forms are necessary for obtaining additional information to be used in determining OSHA recordability and filing of worker's compensation claims. Both original forms are to be attached to and submitted together with the Incident Investigation Report.

- 5.5.1 The Return to Work Form is to be completed by the treating physician. The employee shall return the original form to his supervisor prior to returning to work or within 24 hours of a lost time incident. No employee is to be allowed to return to work following treatment of an injury/illness without this completed form. Restrictions given by the physician are to be followed. The supervisor shall contact the treating physician should there be any question regarding an employee's ability to return to work.

5.5.2 Authorization for Release of Medical Records is to be completed by the supervisor or treating agency and signed by the employee. This form is required to obtain doctor's reports, emergency room records, x-ray reports, lab reports, etc., pertaining to the work-related incident. The original form is to be attached to the Incident Investigation Report. These guidelines and procedures facilitate accurate recording of work related injuries and illness and improve filing of worker's compensation claims.

MEDICAL SURVEILLANCE

6.1 POLICY

The medical surveillance program has been established to ensure that personnel are capable of performing their assigned activities, and that the health of employees is not compromised by potential exposure to chemical or physical agents found at work areas. This program is designed to support and monitor the effectiveness of the primary health and safety goal of controlling worker exposure to hazardous materials.

6.2 PURPOSE

This procedure describes the medical surveillance program requirements.

6.3 PARTICIPATING EMPLOYEES

A medical surveillance program is required for employees who are or may be:

- Exposed to substances above permissible levels for 30 or more days per year; or,
- Required to wear a respirator for 30 or more days per year; or,
- Exposed above permissible levels in accidents or emergency situations.

Employees who have a potential work place exposure risk, work with potentially hazardous materials, are required to wear respiratory devices, or are required to be monitored under other regulations (e.g., DOT drivers) will be monitored. Employees who must participate in the medical surveillance program include process technicians, process operators, lab personnel, supervisors, safety personnel, and maintenance personnel.

Other personnel may be monitored on a case-by-case basis. All employees designated to participate in this program are required to do so as a condition of employment.

Employees who do not fall within the above categories will not be included in the program.

6.4 MEDICAL SURVEILLANCE PROGRAM

The medical surveillance program consists of four parts; a pre-employment medical examination, annual medical examination, project specific monitoring and/or medical examination (periodic), and exit medical examination.

The Safety Director is responsible for providing the following to the examining physician:

- A copy of the OSHA regulation relating to hazardous waste site workers and its appendices (29 CFR 1910.120);
- Description of employee's duties as they relate to exposure;
- Description of the personnel protective equipment to be used;
- Information from previous examinations which may not be readily available to the physician; and,
- A copy of the Medical Surveillance Program, Section No. 6.

6.4.1 Medical Form

The medical/occupational history and physical form is to be used for all medical examinations. This form incorporates personal, family, occupational history, physical examination information, acknowledgement and authorization to release medical records, and medical certification.

The medical certification form will be used to ensure that only employees who are physically fit, work in hazardous waste operations.

6.4.2 Pre-Employment Medical Examination

The purpose of pre-employment examination is three-fold. First, the examination should identify any pre-existing illness or medical problem which will exclude a prospective applicant from employment. Secondly, the examination should determine if a candidate possesses sufficient physical capabilities to wear respiratory and personal protective equipment, work at heights, work in climatic extremes (heat and cold), and perform strenuous physical labor. Thirdly, the medical information (SMAC-23, EKG, PFT, chest x-ray, urinalysis, audiogram) will serve as a baseline (pre-exposure) against which the yearly or project specific monitoring can be compared so as to provide a mechanism for early detection of toxic substance exposures, as well as determine the employee's general fitness for potential exposure to chemicals and physical agents.

During the performance of this pre-employment exam, the employee will prepare a pre-employment medical history and sign the medical records release. The authority to release medical records is required as a matter of company policy.

In the pre-employment examination, the examining physician will determine if the prospective employee is capable of safely performing the job for which he/she is applying. At the conclusion of the pre-employment examination, the examining physician will carefully review the medical history and results of the physical examination along with laboratory reports, and then determine if the prospective employee is physically capable of safely performing the intended tasks.

Upon a satisfactory review of results, the physician will complete and sign the medical certification/rejection. The physical examination section and medical certification/rejection section must be completed by the physician. A written report of the occupational and medical history, physical exam and all lab work is required.

The pre-employment examination will consist of the following:

- Occupational and medical history;

- Physical examination;
- Visual test;
- Audiometric test;
- Urinalysis;
- Drug Test
- Blood test;
- Chest x-ray;
- Pulmonary function test; and,
- written report.

6.4.3 Annual Medical Examination

The annual examination will include an updated medical history, including any occupational exposure from the previous year, and a detailed physical exam featuring the same components as the pre-employment examination. The physician will pay particular attention when comparing the bio-chemical parameters to help ensure no recognized symptoms of toxic exposure have developed during the past year. The physician will complete and sign the medical certification/rejection section. A written report of the occupational and medical history, physical exam, and all lab work is required.

6.4.4 Drivers' Medical Examination

Personnel who drive trucks for the company must annually pass a U.S. Department of Transportation physical. The forms for this examination can be obtained from the Health and Safety Department. Driver physicals will consist of a short history and physical examination.

6.4.5 Job Specific Monitoring and/or Medical Examination
(Periodic)

As required for a specific job, or as deemed necessary upon advice from the company toxicologist, a specific medical test(s) may be required for any individual. Additionally, any time an actual exposure occurs, the employee may be tested for that material and the advice of the consultant toxicologist sought.

6.4.6 Exit Medical Examination

An exit medical examination is required at termination of employment or reassignment to an area where the employee would not be covered. The physician should pay particular attention to the condition of skin and document employee comments as to state of health. A written report of the occupational and medical history, physical exam, and all lab work is required.

6.5 MEDICAL RECORDS

The Personnel Department will maintain a medical record for each employee consisting of the following;

- Pre-employment, annual, job specific monitoring (periodic), and exit medical histories, including job description and past occupational exposures;
- The results of all medical examinations including preemployment, annual, periodic testing, including x-ray, examination, and all specific biologic monitoring;
- Medical opinions, diagnosis, progress notes, and recommendations of the doctor;
- Description of treatments and prescriptions; and,
- Employee medical complaints.

6.5.1 Confidentiality

This information contained in the employee medical files will be open to review and usage by Health

and Safety Department and the examining consulting physician(s).

Records must be maintained in a locked file cabinet with access limited to the individuals described above. Upon termination of service, resignation, retirement, or death, the records will be retained for 30 years in accordance to 29 CFR 1910.20.

6.5.2 Employee's Access to Medical Records

In accordance with 29 CFR 1910.20, all employees may have access to their medical records for the purpose of examination and copying. Access will be granted only to the employee or his designated representative. Forms for requesting access to medical records are available from the Health and Safety Department. A copy of this request will be forwarded to the Health and Safety Department for inclusion in the individual's medical file.

6.6 WRITTEN REPORT

The physician will make a written report to the employer of medical conditioxis which may make the employee at increased risk to work at a hazardous site and any recommendations on limitations on use of respirator, personal protective equipment, or any limitation as a result of medical conditions. The physician will not reveal diagnosis or conditions unrelated to employmentf but will inform the employee directly of those conditions and any occupationally related conditions. The physician should send all original completed forms, lab tests and written reports to the Health and Safety Department. The Safety Director will provide the employee with a copy of the written opinion from the examining physician.

6.7 EMERGENCY MEDICAL CARE

6.7.1 The site safety plan addresses emergency medical care the treatment of personnel, including possible exposures to toxic substances and injuries due to accidents or physical problems.

6.7.2 During the preparation of the site safety plan, arrangements should be made with a medical treatment facility or alternate health care service to provide care and adequate treatment of personnel working at job sites. Clear written directions for locating the facility will be included in the plan. The name, address, and telephone number will be conspicuously posted at the work site. The site supervisor is responsible to ensure that any site employee requesting or requiring medical care due to an injury or illness, or exhibiting erratic or uncharacteristic behavior will receive emergency medical care. Personnel requiring emergency medical treatment will not be allowed back on site without a written release by a physician.

AIR MONITORING

7.1 POLICY

Air monitoring will be conducted at all work sites involving hazardous materials in order to determine the appropriate level of protection.

7.2 PURPOSE

The purpose of this procedure is to describe air monitoring requirements for hazardous materials projects.

7.3 REQUIREMENTS

7.3.1 Direct reading instruments will be used on sites involving hazardous materials. The instrument to be utilized will be specific in the site-safety plan.

7.3.2 Instruments available include: portable gas chromatographs (organic vapor analyzers - OVA), photoionization detectors (HNU or TIP), flame ionization detectors (FID), explosimeters, hydrogen sulfide (H₂S) monitors, oxides of nitrogen (NO_x)/carbon monoxide (CO) monitors, and Draeger tubes.

7.3.3 An action level will be established in the site-safety plan for each suspected airborne contaminant. A chart discussing the action levels will be included in every site-safety plan involving hazardous materials.

7.3.4 Instruments will be calibrated monthly or as applicable.

7.3.5 Records of all direct reading monitoring will be kept on the form provided.

7.3.6 Personal samples will be collected to determine individual exposures per the site-safety plan or per guidance by the Safety Director. Samples will be logged on a sample log and will follow chain-of-custody requirements.

7.3.7 Results will be posted on site.

SAFETY TRAINING REQUIREMENT

8.1 POLICY

All employees will be thoroughly trained prior to commencement of project work concerning any and all hazards they may face.

8.2 PURPOSE

The purpose of this procedure is to describe training requirements for employees who may be exposed to hazardous substances, health, or safety hazards.

8.3 REQUIREMENTS

8.3.1 Prior to working on a hazardous waste site, employees will receive training as outlined in the Facility Operations Plan, Section IX, Personnel. Such training will, as a minimum, include:

- Hazard Communication (basic toxicology chemical and physical hazard, labeling, and other information systems);
- Elements of a site safety plan;
- Respiratory protection;
- Personal protective equipment;
- Use of direct reading instruments;
- Medical Surveillance;
- Decontamination;
- Site control; and,
- General work practices.

8.3.2 Employees who can show key work experience or a level of training equivalent to that required in Section 8.3.1, above, may be certified as to the training requirement.

- 8.3.3 An on-site safety training session addressing site specific safety concerns will be conducted by the safety officer prior to work at hazardous waste sites involving potential exposures to hazardous materials. Attendance at this session will be formally recorded using the sign up sheet in Appendix D.
- 8.3.4 Specific training is required prior to working with certain hazardous materials such as known carcinogens.
- 8.3.5 Operators of equipment such as forklifts or high-pressure washers must be trained prior to using the equipment.
- 8.3.6 In addition to the 24-hour initial training, all employees involved in hazardous waste activities will receive 8 hours annual refresher training.
- 8.3.7 Daily safety meetings will be conducted per Health and Safety Plan, Section No. 9.
- 8.3.8 Contractor employees must provide proof of appropriate training per Health and Safety Procedure section No. 29.
- 8.3.9 Employees assigned to emergency response activities will receive training specific to the equipment and procedures of such activities.
- 8.3.10 Employees who have received and successfully completed the training shall be certified by their instructor as having successfully completed the necessary training.

DAILY SAFETY MEETINGS

9.1 POLICY

Daily safety meetings will be held at all work sites.

9.2 PURPOSE

The purpose of this procedure is to describe the requirements for daily safety meetings.

9.3 REQUIREMENTS

9.3.1 Meetings shall be conducted by the supervisor, site safety officer, or another qualified person.

9.3.2 The meetings shall be documented on the training record sign up sheet in Appendix D and kept at the work site.

9.3.3 Possible topics include, but are not limited to:

- Site hazards;
- Personal protective equipment;
- Changes in level of protection;
- Emergency response;
- Decontamination;
- Specific sections of the site health and safety plan;
- Chemical hazards;
- Monitoring instruments and results of air monitoring; and,
- Site specific equipment safety.

RECORDKEEPING

10.1 POLICY

Records pertaining to health and safety are to be maintained by either the Health and Safety Department or Personnel Department.

10.2 PURPOSE

This procedure describes the minimum requirements for maintaining the required health and safety records.

10.3 REQUIREMENTS

10.3.1 The OSHA 300 log will be maintained by the Personnel Department. A copy will be readily available at all offices.

10.3.2 Medical records will be kept by the Personnel Department and will include:

- Name and social security number of employee;
- Date of medical exam;
- Any employee medical complaints related to exposure;
- Physician's written opinions regarding the employee;
- A copy of any information provided to the physician by the employer; and,
- Accident/Injury reports.

10.3.3 Training records will be kept at the Health and Safety Department in each person's personnel file and include:

- Job title;
- Employee name;
- Job description, and duties assigned;

- Required qualifications;
 - Written description of type and amount of both introductory and continuing training; and,
 - Documentation of completion of necessary training.
- 10.3.4 Air sampling data and permits (hot work and confined space) will be kept in the appropriate files.
- 10.3.5 The Operations manager and Safety Director will review the records of each person prior to assignment of work involving hazardous materials and assure that the medical surveillance, training, and respirator fit test are current.
- 10.3.6 All medical records are to be retained for the duration of employment and 30 years thereafter.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

11.1 POLICY

All employees who may be exposed to hazardous substances will be provided with the necessary personal protective equipment.

11.2 PURPOSE

The purpose of this procedure is to describe the requirements for the selection and use of personal protective equipment (PPE).

11.3 GENERAL INFORMATION

11.3.1 The wearing of company-approved hard hats at work sites is mandatory. Hard hats will meet the specifications of ANSI Z89.1 or equivalent as required by OSHA.

11.3.2 Eye protection will be worn when machines or operations present potential eye injury from physical, chemical, or radiation agents. Eye and face protection required herein will meet the requirements specified in ANSI Z87.1 or equivalent.

11.3.3 Face shields are to be worn when full-face protection is required from exposures similar to those listed under eye protection. Face shields are not a substitute for eye protection.

11.3.4 Ear plugs or muffs are to be used when exposed to injurious noise levels over extended periods of time. For specific requirements, see OSHA 1926.52.

11.3.5 The appropriate gloves are to be used when hands are exposed to sustained heat and sparks, wet concrete, acids, corrosives, electrical exposure, or other hazards.

11.3.6 Appropriate foot protection shall be required for employees who are exposed to foot injuries from electrical hazards, hot, corrosive, poisonous substances, falling objects, crushing or penetrating actions, which may cause injuries or who are required to work in abnormally wet locations.

11.3.7 Safety belts meeting the Federal OSHA standards will be worn by all employees exposed to falls from unprotected heights of six feet or more. Safety belt lanyards will be minimum of one-half inch nylon or equivalent with a maximum length to provide for a fall not greater than six feet.

11.3.8 Seat belts are to be installed and used in the front seats of passenger cars, pickups, and trucks. (Driver's seats only on hauling units where no riders are allowed. Use "NO RIDERS" decal.)

11.3.9 Appropriate work clothing will be worn at all times to minimize the hazards from work:

- Shirts which cover only the shoulders and torso (tee-shirts) are not acceptable. Shirts or alternate protection which cover the entire arm may be required in certain circumstances;
- Shorts are prohibited;
- Loose clothing or jewelry which may catch or become entangled with equipment is prohibited.

11.4 LEVELS OF PROTECTION

11.4.1 The level of protection that is required will be specified at all work site. Personal protective equipment has been divided into four categories based on the degree of protection afforded.

11.4.2 Level A

Level A protection must be used when the highest level of skin, eye, and respiratory protection is required based on measured levels or potential for high concentrations of atmospheres vapors, gases or particulates, or when a high potential for skin contact with harmful materials exists. Level A equipment includes:

- Pressure - demand (positive pressure) full-face self-contained breathing apparatus (SCBA) or airline respirator with escape SCBA;

- Totally encapsulating chemical-protective suit;
- Hard hat;
- Gloves: outer and inner, chemical resistant;
- Boots: chemical resistant, steel toe, and shank; and,
- Two-way radio (worn inside suit).

11.4.3 Level B

Level B protection must be used when the highest level of respiratory protection is required (as in Level A), but a lesser degree of skin protection is required. Level B equipment includes:

- Pressure - demand (positive pressure) full-face SCBA or airline respirator with escape SCBA;
- Hooded, chemical resistant clothing, such as one or two-piece splash suit or disposable chemical resistant coveralls;
- Gloves: outer and inner, chemical resistant;
- Boots: chemical resistant, steel toe, and shank;
- Hard hat; and,
- Two-way radio.

11.4.4 Level C

Level C protection must be worn when the airborne contaminants are known and the criteria for using air purifying respiratory is met. Level C equipment includes:

- Full-face or half-mask air purifying respirators with cartridges approved for the type of exposures likely to be encountered;

- Hooded, chemical resistant clothing such as overalls, long-sleeved jacket, one or two-piece splash suit or disposable, chemical resistant coveralls;
- Gloves: outer and inner, chemical resistant;
- Boots: chemical resistant, steel toe, and shank;
- Hard hat; and,
- Two-way radio.

11.4.5 Level D

Level D is the basic work uniform that will be used. It provides only minimal protection. Level D equipment, used as appropriate, includes:

- Coveralls;
- Boots: chemical resistant, steel toe, and shank;
- Gloves;
- Safety glasses; and,
- Hard hat.

11.4.6 The specific equipment requirements within a given level of protection may be modified as necessary to suit the particular needs of a work-site. However, the requirements for Level A to D, as specified in Sections 4.2 through 4.5, above, will be retained as minimum requirements.

11.4.7 The level of protection may be upgraded or downgraded by the site safety officer as conditions change at the site.

Reasons to upgrade include:

- Change in work task that will increase contact or potential contact with hazardous materials;

- Action level is detected during monitoring; and,
- Request of the individual employee.

Reasons to downgrade include:

- New information indicates the situation is less hazardous than originally believed;
- Change in site conditions that decreases the hazards;
- Change in work task that will reduce contact with hazardous materials; and,
- Monitoring or lab analysis support a decision to downgrade.

RESPIRATORY PROTECTION

12.1 POLICY

No individual will enter an area where respiratory protective equipment is required unless the person has been trained in the selection, use, care and limitations of the respirator, and the proper respirator has been selected for the task.

12.2 PURPOSE

This procedure provides supervisors and employees with requirements in the selection, use, care, and limitations of respiratory protective equipment.

12.3 SCOPE

This Procedure applies to all types of respiratory protective equipment except Self-Contained Breathing Apparatus (SCBA).

12.4 GENERAL REQUIREMENTS

12.4.1 Whenever respirators are required, only equipment approved for that purpose will be used. This equipment must be approved by the Mine Safety Health Administration (MSHA) and the National Institute for occupational Safety and Health (NIOSH). Only parts approved for the specific respirator system are to be used for replacement. Modifications to respirators are not allowed unless authorized by the approved agency. Only a person specifically trained should perform work on respirators.

12.4.2 Proper selection of respirators is to be made according to guidance provided by ANSI standard Z88.2-1980 or equivalent. The correct respirator is to be specified for each job. Site health and safety plans, as part of the level of protection requirements, will specify the type of respirator to be used.

The hazardous work site is also constantly monitored to indicate any changes in the working conditions. This procedure allows site safety officers to choose the correct type of respirator in any given situation. The Safety Director periodically monitors the level of contamination in the different work sites. He determines the amount of exposure the employees face and the acceptable level for each employee. Direct reading instruments are used to make sure the proper respirator is selected.

- 12.4.3 Any employee issued a respirator will be provided training in the selection, use, care, and limitations of the respirator, including the provisions of this procedure. Additionally, anyone using a negative pressure respirator will receive a fit test at least annually. The fit test will be qualitative, although for certain projects, a quantitative fit test will be required as designated by the site safety plan.

After the respirator fitting test has been completed, employees will be issued and must keep a record of the test results. The form is attached in Appendix F. The following information must be recorded: the type of test administered, type of respirator used, name of employee tested, name of employee giving the test, date, and test results.

- 12.4.4 Respirators are to be inspected by the user before each use and not worn if defective or if conditions prevent a gas tight face to face piece seal. Each part of the respirator must be examined. Check for cuts, holes stiffening, or crushing of the facepiece. The headbands must not have any breaks, tears, bent or missing hardware, or loss of elasticity. The inhalation and exhalation valve system must be checked for dirt on valve flap. No tears or cracks may exist in the valve itself.

- 12.4.5 Employees may not wear facial hair that interferes with a good gas tight face seal. Other conditions which could interfere with a good face seal include wearing of glasses under full-face respirators, absent teeth or dentures, or unusual face configurations.

- 12.4.6 Contact lenses are not to be worn in an atmosphere requiring a respirator. Eyeglass kits for prescription lenses in a full-face respirator will be provided by the Safety Director if necessary.
- 12.4.7 All breathing air used for supplied air respirators must be grade D or better as described by the Compressed Gas Association Specification G-7.1-1973 or equivalent. The breathing air supply must be equipped with necessary safety items including alarms to indicate low air pressure. If an oil lubricated compressor is used, an additional alarm to indicate over temperature or carbon monoxide build-up must be used. Air line couplings associated with breathing air must be incompatible with outlets for other gas systems.
- 12.4.8 Persons will not be assigned tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work while using the respiratory equipment. A physician with sufficient knowledge of respiratory protection will determine what health and physical conditions are pertinent. The medical status of persons assigned to use respirators will be reviewed annually.
- 12.4.9 Respiratory equipment will be cleaned, inspected, and sanitized after each use by the user or site person assigned to decontamination. When not in use, respirators are to be stored to protect against dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals.
- 12.4.10 Cleaning will be accomplished in four steps:
- Washing - The respirator should be washed in warm water about 140 degrees Fahrenheit with a good detergent using a soft brush. Insert all valves and headband;
 - Disinfecting - Disinfecting rinse consisting of two tablespoons chlorine bleach added to a gallon of water;
 - Rinsing - After disinfecting, the respirator will be rinsed in clean, warm water. All traces of detergent and disinfectant must be removed; and,

- Drying - Allow respirator to air dry by hanging or placing on a clean surface. If not possible to air dry, then towel dry before bagging. When completely dry, assemble the respirator, and store in a clean polybag.

12.4.11 An evaluation of the respiratory protection program's effectiveness should take place at least once a year. Improvements and modifications to correct any program deficiencies or meet additional needs should be accomplished. The program evaluation considers wearer acceptance of the respirator, additional inspection of the program action, and appraisal of the protection provided to employees.

12.5 SPECIFIC RESPIRATORS

12.5.1 Air Purifying -- General Information

Air purifying respirators provide clean air to the wearer by passing atmosphere air through a filtering element. Because most air purifying respirators are also negative pressure (the driving force for air movement is the users inhalation, creating a negative pressure inside the mask), any leakage around the sealing surface of the respirator will be directed inward. Thus air purifying respirators offer a lower level of protection than air supplied respirators.

Air purifying respirators are never to be worn in oxygen deficient atmospheres (less than 19.5 percent oxygen). Air purifying respirators are not to be worn when the airborne contaminant does not possess adequate warning properties (i.e. odor) to warn the user of cartridge breakthrough. Air purifying respirators may be either a half-face piece or full-face piece style.

12.5.2 Air Purifying - Cartridge Type

A variety of cartridges exist for air purifying respirators. The specific one used depends on the type of contaminant being protected against. The site health and safety plan will specify which cartridge is to be used. Common cartridges available include organic vapors, acid gases, ammonia, and various combinations of the above. Furthermore, particulates can be filtered as well, often in combination with gas and vapor protection. Some materials require use of a High Efficiency Particulate Aerosol (HEPA) filter.

12.5.3 Disposable Air Purifying Respirators

Disposable (paper) respirators do not protect against gases or vapors. Due to the uncertainty involved in fitting a paper mask, these respirators are not to be used except for nuisance-type dusts.

12.5.4 Air Supplied Respirators -- SCBA

A SCBA provides the highest level of protection of any respirator. SCBAs are addressed in greater detail in Health and Safety Plan Section No. 13.

SELF-CONTAINED BREATHING APPARATUS (SCBA)

13.1 POLICY

A Self-Contained Breathing Apparatus (SCBA) is approved for the Immediately Dangerous to Life and Health (IDLH) or oxygen deficient (less than 19.5 percent) situations.

13.2 PURPOSE

This procedure provides Safety and Health personnel and employees with the requirements in the use, care, and limitations of SCBAs.

13.3 SCOPE

This procedure applies only to use of SCBAs.

13.4 PROCEDURE

13.4.1 SCBAs are to be used whenever level A or B protection is required, whenever the site health and safety officer requires their use, or whenever the hazards of a situation cannot be assessed prior to entry.

13.4.2 Only SCBAs operating in the positive pressure (pressure demand) mode will be used.

13.4.3 No individual will use an SCBA until training on the use, care and limitations of the SCBA has been received. Such training will be received at least annually.

13.4.4 SCBAs are to be inspected by the user prior to use to ensure the cylinder is fully charged, the regulator and warning devices operate properly, and that the harness, face-piece, hoses and head straps are in good condition.

13.4.5 SCBAs are not to be used if the tank is not fully charged or if any other condition exists which could cause failure of the unit during use.

13.4.6 When using an SCBA, users will leave the work area promptly when the low air pressure alarm signal sounds.

- 13.4.7 Individuals are not to make repairs or modifications to an SCBA unless specifically authorized by the manufacturer of the unit and the site safety officer.
- 13.4.8 The site safety officer is responsible for maintaining the SCBAs ready for use at all times. This includes performing the monthly inspections and inspecting, sanitizing, and refilling or replacing the air tanks after each use.
- 13.4.9 Monthly inspections are to include checks on tightness of connections and the condition of the headbands, valves, and connecting tubes. Rubber parts are to be inspected for pliability and deterioration. The air tank must be fully charged and the hydro-test certification must be correct. Regulator and warning devices must function properly. A record of inspection dates is to be maintained on the SCBA or in its storage container and must include the inspector's name, date of inspection, and identification number of the SCBA for reference. The SCBA/Airline Respirator Inspection List is attached as Appendix G.
- 13.4.10 Any deficiency noted during inspection requires removing the SCBA from service until the condition is corrected. The SCBA and the storage case must be clearly marked or tagged "OUT OF SERVICE".
- 13.4.11 SCBAs are not to be worn if conditions prevent a gastight face to face-piece seal. Other conditions which could interfere with a face seal include wearing of glasses, absent teeth or dentures, or unusual face configurations.
- 13.4.12 Contact lenses are not to be worn in an atmosphere requiring an SCBA. Eyeglass kits for prescription lenses are provided by Safety Director when necessary.
- 13.4.13 Persons will not be assigned tasks requiring the use of an SCBA unless it has been determined that they are physically able to perform the work while wearing SCBA. A physician with sufficient knowledge of respiratory protection will determine what health and physical conditions are pertinent. The medical status of persons assigned to use SCBAs will be reviewed annually.

DECONTAMINATION

14.1 POLICY

All personnel working on job sites involving hazardous materials require decontamination upon leaving the exclusion zone.

14.2 PURPOSE

The purpose of this procedure is to describe the requirements for decontamination. See Health and Safety Plan, Section No. 28 (Emergency Response) for the detailed description of written decontamination procedures.

14.3 REQUIREMENTS

14.3.1 Site-safety plans will include a section on decontamination with specific requirements.

14.3-2 Every exit from the exclusion zone requires decontamination. The exception is an emergency situation. If an employee is injured, decontaminate to the extent possible given the nature of the injury.

14.3.3 Large equipment will be decontaminated by using a steam or hot water hose wash or by detergent wash.

14.3.4 The procedure will vary from work site to work site but will always include the following steps:

- Equipment drop;
- Outer boots and gloves wash/rinse (step off);
- Outer boots and gloves removal;
- Suit wash/rinse/removal;
- Inner glove wash/rinse;
- Face piece removal, wash/rinse;
- Inner glove removal; and,
- Field wash (face, hands).

- 14.3.5 Personnel assigned to the decontamination process will assist workers and decontaminate equipment and reusable protective gear.
- 14.3.6 Any on-site shower facility will be provided whenever necessary.

HEAT STRESS

15.1 POLICY

It is the responsibility of the work-site supervisors to be aware of the symptoms and causes of heat-related illnesses and take appropriate steps to prevent its occurrence.

15.2 PURPOSE.

This procedure describes the causes, symptoms, treatment, and/or prevention of heat-related illness.

15.3 GENERAL INFORMATION

15.3.1 Heat-related illness are generally caused by the body's inability to remove metabolic heat while being exposed to excessive environmental heat.

15.3.2 A period of adjustment or acclimatization is necessary before maximum tolerance to heat is acquired. Most workers require 7 to 10 working days of gradually increasing workload to become fully climatized.

15.3.3 The body's core temperature must be maintained below 100 degrees Fahrenheit or else heat stress can occur.

15.3.4 Pulse rate is another good indicator of heat stress. The pulse rate after one minute of recovery should be less than 110.

15.3.5 Heat-related illnesses are caused by the loss of water and electrolytes.

15.4 HEAT RELATED ILLNESSES

15.4.1 Heat rash can be caused by continuous exposure to hot and humid air.

Signs and Symptoms: The condition is characterized by a localized red skin rash and reduced sweating. Aside from being a nuisance, the ability to tolerate heat is reduced.

Treatment: Keep skin hygienically clean and allow it to dry thoroughly after using chemical protective clothing.

- 16.4.2 Heat cramps are caused by profuse perspiration with inadequate fluid intake and salt replacement.

Signs and Symptoms: Muscle spasm and pain in the extremities and abdomen.

Treatment: Remove affected person to a cool place and give sips of salted water (1 teaspoon of salt to 1 quart of water). The salted water should quickly mitigate the cramps. Manual pressure may also be applied to the cramped muscles.

- 15.4.3 Heat exhaustion is a mild form of shock caused by sustained physical activity in heat and profuse perspiration without adequate fluid and salt replacement.

- 15.4.4 Heat stroke is the most severe form of heat stress; the body must be cooled immediately to prevent severe injury and/or death.

Signs and Symptoms: Red, hot, dry skin; body temperature of 105 degrees Fahrenheit or higher; no perspiration, nausea; dizziness and confusion; strong, rapid pulse; coma.

Treatment: Heat stroke is a true medical emergency. Transportation of the victim to a medical facility must not be delayed. Prior to transport, remove as much clothing as possible and wrap the victim in a sheet soaked with water.

Fan vigorously while transporting to help reduce body temperature. Apply cold packs, if available; place under the arms, around the neck, or any other place where they can cool large surface blood vessels.

If convulsions develop, prevent victim from biting his tongue. If transportation to a medical facility is delayed, reduce body temperature by immersing victim in an ice/water bath (however, be careful not to over chill the victim once body temperature is reduced below 102 degrees Fahrenheit). If this is not possible, keep victim wrapped in a sheet and continuously douse with water and fan.

15.5 SPECIFIC REQUIREMENTS

- 15.5.1 A section of site-safety plans will address heat stress if the ambient temperature is expected to exceed 70 degrees Fahrenheit.
- 15.5.2 The site-safety plan will discuss work-rest cycles and provisions for monitoring the levels of heat stress (i.e., pulse rate).
- 15.5.3 Workers are to be advised not to drink alcoholic beverages because they increase the rate of body water loss.
- 15.5.4 Increased dietary salt or lightly salted (0.2 percent) water is adequate to replace lost salt. Salt tablets are not to be used.
- 15.5.5 If juice or electrolyte drinks are used, they should be diluted prior to drinking.
- 15.5.6 Thirst is not an adequate indicator of body water loss. Workers are to drink at least small amount of water on each break.
- 15.5.7 Workers are to rest when any of the symptoms described above are present. The buddy system is mandatory, as most often the potential victim will not be aware of any symptoms, Watch out for each other.

CONFINED SPACE ENTRY

16.1 POLICY

No employee is to enter a confined space until atmospheric testing has been conducted and confined space entry permit has been completed. Confined space permits are valid for a single work shift only.

16.2 PURPOSE

This work procedure provides personnel with requirements for working safely in confined spaces.

16.3 DEFINITIONS

- 16.3.1 Confined Space - Any enclosed area having a limited means of egress where ventilation is not adequate to remove toxic or flammable atmosphere or any oxygen deficiency which may exist. Examples of confined spaces include, but are not limited to: tanks, vessels, bins, boilers, ducts, sewers, underground utility vaults, manholes, tunnels, pipelines, or any open top space more than four feet in depth such as pits, tubes, vaults or vessels.
- 16.3.2 Oxygen Deficiency - Atmospheres which contain less than 19.5 percent oxygen.
- 16.3.3 Flammable Atmosphere - Atmospheres in excess of 10 percent of the lower flammable limit of the material in question. These are often toxic as well as flammable.
- 16.3.4 Toxic Atmosphere - Atmospheres having concentrations of airborne chemicals in excess of permissible exposure limits as defined by federal or state regulations or Threshold Limit Values (TLVs).

16.4 PROCEDURE

- 16.4.1 A confined space entry permit containing the applicable elements of this section will be written as approved prior to any entry into a confined space.
- 16.4.2 The confined space is to be emptied, flushed, or otherwise purged of hazardous substances.
- 16.4.3 Pipes or lines which convey any kind of substance to the confined space are to be disconnected, blinded, or have the valve locked off to prevent such substances from entering the confined space while work is in progress.
- 16.4.4 Electrical circuits to fixed mechanical equipment which may cause injury if accidentally energized must be de-energized and locked out.
- 16.4.5 The air in the confined space is to be tested for oxygen deficiency, flammable atmosphere, and any toxic contaminants likely to be present. All tests of the atmosphere are to be made by trained, competent personnel using calibrated equipment.
- 16.4.6 Electrical equipment and lighting are to be explosion proof when used in Confined spaces subject to flammable or explosive gases, vapors, or dusts. Extreme care must be taken in dusty atmospheres because there may be no indication of problems on atmospheric test equipment, yet a hazard exists. Power tools should be pneumatic when possible.
- 16.4.7 All work will stop and the confined space evacuated if any indication of ill effect such as dizziness, irritation, or excessive odors are noted.
- 16.4.8 Welding and/or cutting in a confined space shall require the use of a hot-work permit. Cutting gas cylinders and welding machines will not be taken into confined spaces.

- 16.4.9 All employees entering a confined space shall wear an approved safety harness. When the confined space is entered through a manhole or is deeper than the employee's shoulders, an approved life line should be attached. When the nature of the space entered involves more than one employee and the fouling of life lines could occur, the Safety and Health Department should be consulted.
- 16.4.10 Rescue equipment must be at the work site prior to commencing work. Rescue equipment will include extra rope, safety harnesses, stretchers, and emergency SCBA. No one should enter a confined space until adequate safety equipment is present to remove an unconscious person.
- 16.4.11 A ladder is required in all confined spaces deeper than the employee's shoulders. The ladder shall be secured and not removed until all employees have exited the space.
- 16.4.12 The site supervisor is responsible for evaluating general safety hazards including permits, locking out of equipment, adequate lighting, tools, etc. and is responsible for assuring the confined space entry permit is completed.
- 16.4.13 Confined space entry permits will be maintained in the project file.
- 16.4.14 A copy of the confined space entry permit is attached in Appendix H.
- 16.5 CONFINED SPACE ENTRY PROCEDURES FOR SAFETY OBSERVER

Employees entering a confined space must be under the constant surveillance of a safety observer. It is the safety observer's responsibility to follow this procedure:

- A valid confined-space entry permit must be at the site;
- The safety observer must know the location of the nearest telephone and emergency numbers, safety shower, and fire extinguishers;

- When welding or cutting is done in a confined space, the safety observer must know how to shut down the equipment; and,
- The safety observer must remain in constant contact with the employees in the confined space. The observer in not to leave his/her assigned station space except to report an emergency.

HOT WORK

17.1 POLICY

No work involving a flame or spark producing operations is to be conducted without preparing a hot work permit and following the provisions of this procedure.

17.2 PURPOSE

This procedure establishes requirements for cutting or burning operations.

17.3 REQUIREMENTS

17.3.1 The Safety Director, Operations Shift Supervisor, or Welding Supervisor is to issue the hot work permit for any flame producing or spark producing operation. This procedure is to be conducted daily.

17.3.2 This procedure is to be read and complied with by any employee conducting hot work.

17.3.3 The site supervisor or site safety director will complete the following procedures prior to beginning hot work:

- Conduct a visual inspection of area. Remove any combustible material surrounding the work area. Special attention will be paid to areas where hot slag can fall or splatter. Any combustible material which cannot be readily removed will be covered or otherwise protected from the hot materials. For example, covering a combustible surface with one inch of soil or wetting it may be sufficient.

- Designate a fire watch. This person's (or persons') sole responsibility will be to monitor the welding or burning operation and have immediate access to a fire extinguisher for the potential combustible material. In addition, this person(s) shall be trained in the proper use of the appropriate fire extinguisher and be knowledgeable of the emergency signal and evacuation procedures as well as emergency shutdown procedures.
- Do not begin until all spaces, pipes, and sumps have been opened and tested for the presence of flammables. If any flammable or combustible vapors exceed 10 percent lower explosive limits (LEL), no work will begin until levels are reduced. As a rule, no hot work will begin when any combustible vapor is present.
- A hot work permit will be completed and posted.

17.4 BURNING OPERATION SAFETY RULES

- 17.4.1 Wear adequate flame and heat resistant apparel and appropriate eye protection. This includes chipping operations.
- 17.4.2 Ensure that the area below is roped off and adequate signage is posted if work is overhead.
- 17.4.3 Protect personnel and equipment in and near vicinity against exposure from arc or sparks.
- 17.4.4 Observe good housekeeping practices; keep excess hoses, cables, and equipment out of aisle ways, stairways, and the immediate work area.
- 17.4.5 Never use oil, grease, or pipe fitting compounds to make up connections on oxy-acetylene welding equipment.
- 17.4.6 Store fittings in a manner to prevent contamination.
- 17.4.7 Do not interchange oxygen and acetylene hoses; oxygen should be coded green and acetylene should be coded red.

- 17.4.8 Do not force connections or strike or force valve wheels.
- Before connecting cylinders, read the label to ensure that the proper gas is being used.
 - Cylinders must not be placed where they might form part of an electrical circuit. Keep cylinders away from grating, layout tables and piping systems that may be used for the grounding of electrical welding circuits.
- 17.4.9 Open oxygen valves momentarily to remove dust or dirt; stand on one side of the valves and avoid contact of gas with any combustible material.
- Pressure-adjusting screws on regulators will be fully released before the regulator is attached to a cylinder and the cylinder valve opened. Open the cylinder valves slowly; stand to one side, not in front of pressure -regulator gauge face when opening cylinder valves.
 - Do not use adjustable wrenches on acetylene cylinders; use only T-wrench. Keep it in place near the cylinder.
 - Never open a acetylene cylinder valve more than one and one half turns.
- 17.4.10 Do not store tools or equipment in the recessed top of an acetylene cylinder, and do not allow water to accumulate there.
- 17.4.11 Inspect the welding hose for defects before each use. Keep hoses clear of equipment and hot slag.
- 17.4.12 Do not use oxygen for cleaning, pressurization, or for ventilation.
- 17.4.13 Do not relight flame on hot work when in an enclosed space. Allow time for gases to escape and then use friction lighter.
- 17.4.14 A metal part which is suspiciously light probably has a void inside and an opening should be drilled before heating. Electrical boxes at the end of

conduit should be opened prior to cutting conduit.
Valves on both ends of piping should be opened.

17.4.15 Never lay work that is to be heated or welded on a concrete floor because when sufficiently heated, concrete may spall and fly, which is dangerous and can result in injury.

17.4.16 Do not cut material in such a position that severed parts will fall Striking legs or feet of the operator or assistant, or damaging gas lines.

17.4.17 When a flashback occurs, both gases should be shut off immediately, first oxygen, then acetylene. Before lighting the torch again, see that it is cool and that no damage has been done to the torch, hose, or regulator.

17.4.18 Mark work "HOT" if left unattended or where others may come in contact with hot surfaces.

17.4.19 When burning operations are to be stopped for a few minutes during the course of the work, it is permitted to close torch valves only. When work is stopped for a longer period or is left unattended, the following steps must be taken:

- Close oxygen and acetylene cylinder valves;
- Open torch valves to relieve pressure, then close again; and,
- Release regulator pressure adjusting screws.

17.4.20 Before regulator is removed from a cylinder, the cylinder valve will be closed and the gas released froia the regulator.

17.5 PERSONAL PROTECTIVE EQUIPMENT

The normal personal protective equipment worn when working with hazardous materials generally provides inadequate protection from flames or heat. The person performing the work. shall supplement the existing equipment with the following:

- Welding gloves from leather or other fire-resistant material;

- Apron or jacket fashioned from leather or other fireresistant material;
- Chapps, if-necessary, for leg protection;
- Eye protection and face protection with appropriate ANSI darkened lenses; and,
- If necessary, flash-fire protection. Note: normal chemical protective clothing is inappropriate for fire situations.

17.6 HOT WORK PERMIT

- 17.6.1 No employee is to begin hot work unless a hot work permit has been obtained. It is the responsibility of the supervisor to request this permit. The hot-work permit shall be signed by the Safety Director to see that workers comply with all safety practices of the hot work permit. It is the responsibility of the supervisor to see that the workers comply with all safety practices of the hot work permit.
- 17.6.2 The hot work permit will be valid for a single work shift only. On projects requiring more than a single work shift, a new permit shall be completed at the start of each shift. The permit shall be displayed at the project site.
- 17.6.3 At the conclusion of the project, the hot work permits will be forwarded to the Maintenance Manager and kept on file for at least 6 months.

LOCKOUT/TAGOUT

18.1 POLICY

Equipment will be removed from service via lockout/tagout when the unexpected or inadvertent movement of machine or materials or energizing of circuits poses a threat to worker safety.

18.2 PURPOSE

This procedure establishes the minimum safety requirements to ensure the proper deactivation of movable, electrically energized, pressurized equipment and systems, and systems containing hazardous materials prior to repairing, cleaning, oiling, adjusting, or similar work.

18.3 SCOPE

This procedure applies to all equipment that receives its energy from electrical power, hydraulic fluid under pressure, compressed air, steam, energy stored in springs, potential energy from suspended parts, or any other source that may cause unexpected movement when it is necessary to perform work on that system. It also applies to similar functions performed on systems containing hazardous materials.

18.4 DEFINITIONS

18.4.1 Lockout is the use of a locking device, usually openable by a key, that is affixed to the prime source of energy of a piece of equipment of the source of systems containing hazardous materials. The locking device shall be used to prevent undesired movement or flow of material.

18.4.2 Tagout is the use of a Danger Tag that is always to be affixed to the prime source of energy of a piece of equipment or source of systems containing hazardous materials in such manner that cannot be accidentally removed. A facsimile of the "Danger: Do Not Operate" tag is attached in Appendix J. The tag must contain the name of the person hanging the tag and the date it is hung. The tag only is sufficient when the equipment is incapable of being locked out provided the equipment is disconnected from its source of energy.

- 18.4.3 Authorized personnel is the person or persons who lockout/tagout equipment and their immediate supervisor. NO ONE is permitted to remove a lock or tag except the authorized personnel.
- 18.4.4 Extension tools, such as swabs, brushes, scrapers, or other methods or means to protect personnel from injury, may be used where it is clearly impossible to shutdown equipment for servicing. These conditions may exist only upon supervisory permission.
- 18.4.5 Low voltage is voltage below 600 volts. Where applicable to energized circuits, this procedure applies to low voltage only.

18.5 REQUIREMENTS

- 18.5.1 The Maintenance Supervisor having jurisdiction over personnel assigned to perform maintenance functions has the responsibility to provide lockout devices and danger tags to train personnel in their use.
- 18.5.2 Where a job requires more than one craft or employee to accomplish, each employee is responsible to hang their own lock and/or tag.
- 18.5.3 All crafts, departments, and shifts involved must be notified of a shutdown requiring Lockout/Tagout.
- 18.5.4 Unauthorized removal of lock or danger tag is a serious breach of safety regulations.
- 18.5.5 Machinery or equipment capable of movement must be stopped and the power source de-energized or disengaged, and, if possible, the movable parts that may present a hazard shall be mechanically blocked or locked to prevent inadvertent movement during any work on that system.
- 18.5.6 Every prime mover or power driven machine equipped with lockable controls must be locked out or positively sealed in the OFF position during work operations. Machines or prime movers not equipped with lockable controls, or not readily adaptable to lockable controls, must be de-energized or disconnected from their source of power, or other action which will prevent the prime mover or

machine from inadvertent movement. In all cases, danger tags shall be placed on the controls of the machines and prime movers during repair work.

After locking/tagging out the equipment, an attempt must be made to start the equipment by the normal means to verify that the correct device has been locked/tagged out.

18.5.8 Work on energized parts of equipment or systems may be performed only after the following conditions have been met.

- Responsible supervision has determined that it is necessary to work on energized equipment or systems, and the Safety Director has approved of the operation.
- Involved personnel have received instructions on the work techniques and hazards involved in the particular task to be performed.
- Suitable personal protective equipment, such as gloves and eye protection, are provided and used.
- Suitable barriers, barricades, equipment guards, and danger tags are in place for personnel protection.

18.5.9 Systems or equipment may be pressurized with various media, such as air, gas, steam, and/or hydraulic fluid in the form of water or oil. The pressurizing source, such as compressors, pumps, boilers, etc., shall be shutdown and locked out and/or tagged out.

18.5.10 Pipes or lines that convey pressurized substances shall be bled to atmospheric pressure prior to opening the system.

18.5.11 Once the system has been bled to atmospheric pressure the pipes or lines shall be disconnected, blinded, or closed by a valve and locked out and/or tagged accordingly. Observe line entry procedures.

18.5.12 A system, or portion of a system, containing hazardous materials that is to be serviced shall be drained from the lowest elevation, and if hot,

allowed to return to ambient temperature prior to commencing work. Containers of compatible materials must be used along with appropriated ventilation/ scrubber systems. Once the work system has been determined to be safe to commence work, pipes, or lines shall be disconnected blinded or closed by a valve, and locked out and/or tagged accordingly.

- 18.5.13 Some equipment may have several sources of energy, such as electrical motors, hydraulic pressure, and may contain hazardous materials. Each source of energy must be considered separately and protected appropriately.
- 18.5.14 Where a job requires more than one craft or more than one employee to accomplish, each employee shall hang their own lock and/or tag.
- 18.5.15 After completion of a job requiring more than one employee each employee is responsible to remove their own lock or tag. The only other person authorized to remove a lock or tag is the supervisor.
- 18.5.16 The supervisor who has overall responsibility of the job is responsible to assure that all locks and/or tags have been removed prior to re-activating the system or equipment.

HIGH PRESSURE WASHER (HYDROBLASTER)

19.1 POLICY

All users of high pressure washers (Hydroblaster) will comply with this procedure. The hydroblaster is a very effective but potentially dangerous piece of equipment. Only trained, authorized personnel will operate the high-pressure washer.

19.2 PURPOSE

This procedure describes requirements for the safe operation of the high pressure washer.

19.3 PERSONAL PROTECTIVE EQUIPMENT

The following equipment will be worn by operators and assistants:

- Safety shoes or boots;
- Metal foot and shin guards;
- Hearing protection;
- Eye protection (goggles and face shield);
- Hard hat with faceshield;
- PVC rain suit or PVC acid suit;
- Heavy gloves such as monkey grips; and,
- In addition, chemical protective equipment may be required.

19.4 PROCEDURES

- 19.4.1 Only trained, authorized personnel will operate the high pressure washer.

- 19.4.2 The lance must always be pointed at the work area.
- 19.4.3 The operator must maintain good footing.
- 19.4.4 The operator must have an assistant to aid in moving the hose to different areas and backing up the operator. The assistant must remain in back of the operator.
- 19.4.5 Non-operators must remain a safe distance from the operator. The distance must be a minimum of 25 feet.
- 19.4.6 The operating pressure should never exceed that which is necessary to complete the job.
- 19.4.7 No unauthorized attachment may be made to the unit. (The trigger should never be tied down.)
- 19.4.8 Operators should be changed at frequent intervals to avoid fatigue.
- 19.4.9 Equipment should be cleaned often to avoid dirt buildup, especially around the trigger and guard area.
- 19.4.10 An assistant should always be standing by at the pressure generator.
- 19.4.11 All users must be trained in emergency shut down procedures and general equipment maintenance.

CRANES AND LIFTING DEVICES

20.1 POLICY

Work-site lifting activities shall comply with all federal, state, and local laws as well as safe practices dictated by the cranes manufacturer and those deemed as established safe work procedures by the construction industry.

20.2 PURPOSE

This procedure describes requirements for maintenance and operation of hoisting equipment.

20.3 GENERAL REQUIREMENTS

20.3.1 The company will only use cranes and other hoisting equipment that are in safe working order. To maintain this policy, all crane equipment use will be inspected for structural integrity, smooth operational performance, and proper functioning of all critical safety devices in accordance with the crane manufacturer's specifications. This inspection will be performed by the site supervisor, the Safety Director, and the crane operator.

20.3.2 All equipment not conforming to the operational and safety requirements set forth during this inspection will not be put into service until all necessary repairs are made to the satisfaction of the inspection group. If any existing job cranes are to be used, they are to be inspected by a certified inspection agency prior to use.

20.3.3 Only qualified crane operators familiar with the equipment to be used will be permitted to operate the crane. Sub-contractors will supply proof of its operator's capability and experience to operate the crane in a safe manner. The company reserves the right to remove from the project site any crane operator if there is question or doubt concerning the operator's capabilities.

20.3.4 All hooks, slings, and other fittings shall be of correct size for the work to be done and shall have strength sufficient to safely sustain the loads imposed on them.

- 20.3.5 Employees shall refrain from standing or walking beneath crane booms.
- 20.3.6 In the event of emergency repair work of hoisting equipment with a suspended load, the area below the load shall be barricaded and the load blocked up or otherwise supported.
- 20.3.7 Employees are not to ride loads, hooks, medicine balls, or slings suspended from hoisting equipment.
- 20.3.8 Side pulls shall be avoided in all cases. The load must be directly under the hoist.
- 20.3.9 The safety latch on the hook of the hoisting equipment must be in a "closed" position.
- 20.3.10 Use of deformed or defective hooks, rings, pins, shackles, or other lifting attachments is prohibited. Chain or wire rope shall be free of kinks, sharp bends, or twists.

20.4 RIGGER COMPONENTS

- 20.4.1 Rigging components will be inspected daily by members of the rigging team. In addition, allowable wire breaks and wear on hoisting ropes will follow The Handbook of Rigging for Construction and Industrial Operations, 3rd Edition, W.E. Rossnagel or most recent edition.
- 20.4.2 Each sling is to be marked or tagged with its rated capacity.
- 20.4.3 Slings are not to be used with loads in excess of their rated capacity.
- 20.4.4 Wire rope slings are to be immediately removed from service if any of the following conditions are present:
- Six (6) randomly distributed broken wires in one rope lay, or three (3) broken wires in one (1) strand in one (1) rope lay.
 - Wear or scraping of one-third (1/3) the original diameter of outside individual wires.

- Kinking, crushing, bird caging, or any other damage resulting in distortion of the wire-rope structure;
- Evidence of heat damage;
- End attachments that are cracked, deformed, or worn;
- Hooks that have been opened more than 15 percent or the normal throat opening, measured at the narrowest point, or twisted more than 10 degrees from the plane of the unbent hook; and,
- Corrosion of the rope or end attachments.

20.5 CRANE OPERATIONS

20.5.1 Since the crane is a specialized piece of heavy equipment, it warrants special safety protocols. It is policy to establish a crane and rigging safety program for all sites using this equipment.

20.5.2 Crane performance shall be according to the manufacturer's designs and established construction safe work practices. At no given time will crane operation be permitted out of the design specification of the unit or the safety requirements deemed by federal or state safety standards. The following safety policies will be enforced at all times during crane operations:

- Accessible areas within the swing radius will be barricaded to prevent employee injury.
- No crane will operate in a heavy lift mode without its outriggers fully extended to assure maximum stabilization of the equipment.
- All hand signals used will be in accordance to American National Standard Institute's (ANSI) B30.5-68, "Basic Hand Signals for Boom Equipment Operations." Only one individual will issue operational hand signals to the crane operator unless it is established that relay hand signaling for blind craning situations is required.

- Load Capacity Limitations.

All load weights are to be estimated to within +/- 5 percent for all critical lift operations. All hoisting capabilities of the crane in use will be according to the load capacity charge specified by the manufacturer. Load weight will be calculated with all rigging components considered as part of the load.

- Swing Loads.

General lifts are small scale hoisting activities which require daily rigging inspection. To distinguish what items are considered general lifts, the load capacity chart of the specific crane in use will be the criteria. General lifts for this plan are those lifts that do not exceed the crane's load capacity rating in its least stable; but safe operating position.

- Major Lifts

Major lifts are lifts that require the attention of the company Safety Director or his designated representative to review the lift and rigging operations during the actual lift. Major lifts are those that are less than 75 percent of the crane's upper load rating on the load capacity chart. Major lifts may also include those lifts with unusual configurations that require special attention in rigging.

- Critical lifts.

Critical lifts are those lifts which exceed 75 percent of the crane's load capacity rating. Critical lifts will not be enacted until an overall lift review detailing all weight calculations and lift strategy has been held.

20.5.4 Direct supervisory and safety supervision by will be mandatory for all major and critical lifts.

FORKLIFTS

21.1 POLICY

Only trained and authorized operators shall be permitted to operate industrial forklifts and tow motors.

21.2 PURPOSE

This procedure establishes minimum standards for the safe and efficient operation of forklifts and tow motors.

21.3 REQUIREMENTS

21.3.1 Operators of forklifts and tow motors must be trained and authorized.

To qualify for a new license, the employee must:

- Complete 24-hour OSHA training;
- Complete field training; and,
- Successfully pass a road test.

Retraining is necessary for recertification.

All operators of forklifts and tow motors will receive an Industrial Lift Truck Card authorizing their use of such equipment. This card is to be in the operator's possession whenever using the equipment.

21.3.2 Each driver is to check his vehicle at least once per shift. If it is found to be unsafe, the matter shall be reported immediately to his supervisor, and the vehicle not put in service again until it is repaired. Attention is to be given to the proper functioning of tires, horn, lights, battery, brakes, steering mechanism, and the lift system of forklifts. The Forklift and Tow Tractor Checklist, reproduced following this procedure, is to be used to satisfy the requirements of this paragraph. Checklist should be kept with the vehicle or in the supervisor's office and maintained for a period of six months by the supervisor.

- 21.3.3 The authorized or safe speed is not to be exceeded. Each driver is to maintain safe distance from other vehicles, keeping his vehicle under positive control at all times. All established traffic regulations are to be observed. For forklifts traveling in the same direction, a safe distance may be approximately 3 lengths, or preferably a time lapse of 3 seconds passing the same point.
- 21.3.4 Stunt driving and horseplay are prohibited.
- 21.3.5 Loaded vehicles are not to be moved until the load is safe and secure.
- 21.3.6 When a driver leaves a vehicle unattended, the power must be shut off, brakes set, the mast brought to the vertical position, and forks left in the down position. When left on an incline, the wheels must be blocked. Keys are to be removed from vehicles parked in isolated areas.
- Note: Do not depend on a seat brake unless that is the only parking brake on the equipment. Always use the hand brake, if available.
- A powered industrial forklift is unattended when the operator is 25 feet or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in view.
 - When the operator of an industrial forklift has dismounted and is within 25 feet of the vehicle still in his view, the load engaging means must be fully lowered, controls neutralized, and the brakes set to prevent movement.
- 21.3.7 Forklifts are not to be driven up to anyone standing in front of a fixed object of such size that the person could be caught between the vehicle and object.
- 21.3.8 Operators are to look or face in the direction of travel and not move a vehicle until certain that all persons are in the clear.
- 21.3.9 Vehicles are not to be operated on floors or platforms that will not safely support the loaded vehicle.

- 21.3.10 Riding on forks of lift trucks is prohibited.
- 21.3.11 Forks must always be carried as low as possible, consistent with safe operation (normally, approximately four (4) inches above the running surface).
- 21.3.12 Extreme care is to be used when tilting loads.
- 21.3.13 Forklifts are not to be driven in and out of highway trucks and trailers at unloading docks until such trucks are securely blocked and brakes set.
- 21.3.14 Employees must not place any part of their body outside the running lines of the forklift or between mast uprights or other parts where shear or crushing hazards exist.
- 21.3.15 Employees are not allowed to stand, pass, or work under elevated portion of any forklift, load or empty, unless it is effectively blocked to prevent it from falling. The forks of a forklift are never to be used to elevate a person to a higher level, unless a proper platform with guardrails is provided and the platform is fastened to the mast.
- 21.3.16 The width of one (1) tire on the forklift is the minimum distance from the edge to be maintained while it is on any elevated dock or platform.
- 21.3.17 Other forklifts traveling in the same direction are not to be passed at intersections, blind spots, or dangerous locations.
- 21.3.18 Drivers are to slow down and sound the horn at cross aisles and other locations where vision is obstructed.
- 21.3.19 If the load being carried obstructs forward view, the drivers are to travel with the load trailing.
- 21.3.20 Grades must be ascended or descended slowly.
 - When ascending or descending grades in excess of 10 percent, loaded forklifts must be driven with the load upgrade.
 - On all grades, the load and load engaging means to be tilted back if applicable, and

raised only as far as necessary to clear
the road surface.

- 21.3.21 Forklifts must not be loaded in excess of their rated capacity.
- 21.3.22 Forklifts are not to be operated with a leak in the fuel systems.
- 21.3.23 Extreme care is to be taken when tilting loads. Tilting forward with the load engaging means elevated is prohibited except when picking up a load. Elevated loads are not to be tilted forward except when the load is being deposited onto a storage rack or equivalent. When stacking or tiering, backward tilt is limited to that necessary to stabilize the load.
- 21.3.24 The load engaging device must be placed in such a manner that the load will be securely held or supported.
- 21.3.25 Special precautions are to be taken in the securing and handling of loads by forklifts equipped with attachments, and during the operation of these vehicles after the loads have been removed.
- 21.3.26 The wearing of seat belts is mandatory when operating any type of industrial tractor equipped with ROPS (roll-over protective structure).
- 21.3.27 "Operating Rules for Industrial Trucks" (Forklift and Tow Tractors) shall be posted where such equipment is used. "Employee Operating Instructions" for Industrial Tractors are included.

PORTABLE LADDERS AND WORK PLATFORMS

22.1 POLICY

Construction of wood or metal step ladders must meet applicable OSHA requirements and ANSI Standards and must not exceed 20 feet in height. Elevated work platforms must comply with this procedure.

22.2 PURPOSE

This procedure establishes Criteria for the procurement, construction, care and use of portable ladders and work stands in order to ensure personnel safety under normal conditions of usage.

22.3 CARE AND USE OF LADDERS

22.3.1 Ladders are to be maintained in good condition at all times. The joint between the steps and side rails must be tight, all hardware and fittings securely attached, and the movable parts must operate freely without binding or undue play.

22.3.2 Safety feet and other auxiliary equipment are to be kept in good condition to insure proper performance.

22.3.3 Ladders shall be stored in such a manner as to provide ease of access or inspection, and to prevent danger of accident when withdrawing a ladder for use.

Ladders are to be stored on racks designed to protect the ladder when not in use. These racks must have sufficient support points to prevent any possibility of excessive sagging.

22.3.4 When not in use, wood ladders shall be stored at a location where there is good ventilation, but where they will not be exposed to the elements.

22.3.5 Ladders carried on vehicles shall be adequately supported to avoid sagging and securely fastened in position to minimize chafing and the effects of road shocks.

- 23.3.6 Wood ladders shall be kept coated with a suitable protective material. Painting of ladders is permissible provided a clear finish is used.
- 22.3.7 Ladders are to be maintained in good usable condition at all times. Hardware fittings are accessories which must be checked frequently and kept in good working condition.
- 23.3.7 Ladders are to be inspected frequently, and those which have developed defects are to be withdrawn from service for repair or destruction and tagged or marked "Unsafe Do Not Use".
- 23.3.8 Ladders must not be placed in front of doors opening toward the ladder unless the door is blocked open, locked or guarded.
- 23.3.10 Ladders must not be placed in boxes, barrels, or other unstable bases to obtain additional height.
- 23.3.11 Ladders with broken or missing steps, rungs, or cleats, broken side rails, or their faulty equipment are not to be used. Improvised repairs are prohibited.
- 23.3.12 Tops of ordinary step ladders are not to be used as steps.
- 23.3.13 A ladder is not to be used to gain access to a roof unless the top of the ladder extends at least three (3) feet above the point of support at eaves, gutter, or roof line.
- 23.3.14 The correct angle for using straight ladders is for the foot of the ladder to be placed from the wall a distance equal to one-fourth (1/4) the effective length of the ladder. (Effective length = length of ladder from base to point of support.)
- 23.3.15 On two-section extension ladders, the minimum overlap for the two sections is to be at least three (3) feet for ladders up to and including 36-feet in length.
- 23.3.16 Personnel using ladders must:
- Face the ladder while working;
 - Work only within arm's length of the ladder;

- Use both hands when ascending or descending;
- Allow no other person on the ladder; and,
- Use rope to raise or lower materials and tools.

23.3.17 A portable ladder is designed as a one-man working ladder based on a 200-pound load. The ladder base section is to be placed with a secure footing. Safety shoes of good substantial design are to be installed on all ladders.

22.3.18 Portable metal ladders or work platforms are not to be used in the vicinity of electrical circuits or in places where they may come in contact with them. They are to be legibly marked with signs reading "CAUTION - DO NOT USE NEAR ELECTRICAL EQUIPMENT" or equivalent wording.

22.4 MOBILE ELEVATED WORK PLATFORMS

22.4.1 Whenever a forklift is used to elevate employees for work positioning, a safe work platform having sufficient space to accommodate the employees and material being elevated, but having not less than 24-inch x 24-inch working space, is to be securely attached to the forks or mast in such a manner as to prevent tripping, slipping, or falling from the supports.

- The platform must be equipped with standard guard-rails, with mid-rails on all open or exposed sides, and toe-boards are to be installed if work is performed where employees normally work or pass.
- Where a clearance restriction or the nature of the work prohibits the use of guardrails, a safety belt or harness with lanyard must be used- The lanyard is to be attached to a point located above and near the center of the platform.
- An operator is to be at the controls of the forklift while employees are on the elevated platform.

- The side of the platform nearest the mast frame truss shall be guarded. This guard shall consist of a substantial frame covered with 1/2 inch expanded metal, laminated safety glass, or equivalent providing effective guarding to a height of 7 feet.

22.4.2 If a forklift is to be operated under conditions which might expose the operator to danger from falling objects from the elevated work platform, the truck must be equipped with overhead protection.

22.4.3 Whenever elevating personnel, forklift operators must:

- Use a securely attached safety platform;
- Make sure the lifting mechanism is operating smoothly;
- Place mast vertical and never tilt forward or rearward when elevated;
- Place truck in neutral and set parking brake;
- Lift and lower smoothly and with caution;
- Watch for overhead obstructions;
- Keep hands and feet clear of controls other than those in use; and,
- Never travel with personnel on the work platform other than to make minor movements for final positioning of the platform.

22.4.4 For one man type elevatable pneumatic or hydraulic lifts, means must be provided to render inoperative all operating controls other than those on the elevatable platform when the controls on the elevatable platform are being used. Only one set of controls is to be capable of being operated at one time.

Outriggers are to be used in all cases where such accessory controls are provided with the lift.

22.4.5 Guardrails are to be installed on all work platforms in excess of 30-inches in height. Toe-boards are to be provided if the height of the platform exceeds six (6) feet. Stairways (to platform) having four (4) risers or more are to be equipped with handrails. Handrails are not required if the platforms is less than 30-inches high,

ELECTRICAL SAFETY

23.1 POLICY

The company will follow standards set by the National Electrical Code and OSHA in selection of materials and methods of installation and maintenance. Only qualified personnel will work on electrical equipment.

23.2 PURPOSE

This procedure specifies the requirements for electrical equipment.

23.3 GENERAL REQUIREMENTS

23.3.1 No electrical work should be done "hot" if it can be done "cold".

23.3.2 Hot line work will be done only under specific authorization and direction from the site supervisor.

23.3.3 Approved rubber protection and "hotsticks" will be used as specified by the site supervisor.

23.3.4 Use proper clearance and grounding procedures and when possible, all electrical circuits and equipment shall be de-energized before maintenance or repair work is started.

23.3.5 Single phase electric hand tools and other single phase portable electrical equipment must be approved by a recognized testing agency, and all exposed noncurrent carrying metal parts must be grounded, or be double insulated.

23.3.6 Before each use, portable electrical appliances are to be examined for obvious deficiencies in the appliance, cord, and plug. If any deficiency is noted, the appliance is not to be used.

23.3.7 Extension cords are to be kept clean, dry, free of kinks, and protected from oil, hot or sharp surfaces, and chemicals. Extension cords are not to be placed across aisles, through doors, through holes in a wall, or in areas where the cord may be damaged or become a tripping hazard.

23.4 PORTABLE ELECTRICAL EQUIPMENT

- 23.4.1 Double insulated portable industrial type electric tools meeting the requirements of the National Electrical Code are authorized for use (ground wire not required). Where such a system is employed, the equipment must be distinctly marked.
- 23.4.2 Portable electrical tools not provided with special insulating or grounding protection are not intended for use in damp, wet, or conductive locations (persons standing on the ground or on metal floors).
- 23.4.3 All portable electrical appliances and equipment where the non-current carrying metal parts are exposed to contact by personnel shall be grounded by continuous conductor of adequate capacity from the device to a grounded receptacle. The Safety Director shall resolve any question which arises as to whether or not a particular appliance should be grounded.
- 23.4.4 Grounding of receptacles shall be accomplished in one of two ways:
- A built-in ground wire of green color may be attached to the ground pole of the receptacle; or,
 - The conduit system, if installed in an approved manner may be relied upon for grounding of a receptacle serving single phase appliances with ratings up to 230 volts.
- 24.4.5 At outdoor construction sites all single-phase 15 and 20 ampere receptacle outlets operating at 230 volts or less which are not a part of the permanent wiring of the building or structure must have a ground-fault circuit interrupters for personnel protection.
- 23.4.6 The outlet box for portable extension cords for outdoor use shall be of weatherproof type maintained in good condition.

23.5 ELECTRICAL GUARDING

- 23.5.1 Suitable access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.
- 23.5.2 The dimension of the working space in the direction of access to energized parts in switchboards, control panels, fused switches, circuit breakers, panel boards, motor controllers, and similar equipment which require examination, adjustment, servicing, or maintenance while energized, shall not be less than 36" in depth (30" for installations built prior to 1981) and the width-being 30" or the width of the equipment, whichever is greater.
- The working space shall not be used for storage purposes. The "keep clear" area may be identified with suitable floor markings and/or posting of signs or decals on the equipment.
- 23.5.3 Energized parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact by the use of approved cabinets or enclosures.
- Entrance to rooms and other guarded locations containing exposed energized parts shall be marked with a conspicuous warning sign forbidding unqualified persons to enter.
 - Temporary covers, warning signs, and/or barricades are to be used when it is necessary to remove covers of electrical panels during construction, major refurbishment, or for the purpose of providing temporary power to an area.
- 23.5.4 All openings in boxes, enclosures, or fittings shall be effectively guarded or closed to afford protection substantially equivalent to that of the wall of the box, enclosure, or fitting.

SOLVENTS, FLAMMABLES, AND COMPRESSED GASES

24.1 POLICY

This policy is to protect employees against exposures to concentrates above the Threshold Limit Value (TLV). All employees must be familiar with and comply with the provisions of this procedure.

24.2 PURPOSE

This procedure outlines general precautions that are to be taken by personnel when handling solvents, compressed gases, and/or flammable liquids. Precautions and required protective equipment for specific chemicals or gases are included in Material Safety Data Sheets and Site Safety Plans.

24.3 DEFINITIONS

24.3.1 Hydrocarbons solvents are compounds consisting solely of hydrogen and carbon atoms. They are flammable in varying degrees and may leave a combustible residue or oily film.

24.3.2 Alcohols are hydrocarbon derivatives in which one or more hydrogen atoms have been replaced by a hydroxyl group (oxygen-hydrogen). They are flammable, water soluble, and leave no film.

24.3.3 Ketones are hydrocarbon derivatives containing oxygen atoms. They are flammable, water soluble, and dissolve some materials not affected by hydrocarbons or alcohols.

24.3.4 Halogenated hydrocarbons are organic compounds containing chlorine, fluorine, and/or other halogens. They are primarily non-flammable and leave no oily residue. Depending on their boiling point, they are used cold or in heated vapor degreasers. When exposed to flames, hot surfaces, or welding arcs, vapors of these materials decompose into highly toxic and corrosive vapors, such as phosgene or hydrogen chloride.

- 24.3.5 Flammable solvents are classified according to flash points and boiling points (see section 24.3.6 of the procedure).
- 24.3.6 TLV is the abbreviation for "threshold limit value". Atmospheric contaminants are generally expressed as parts per million (ppm) denoting parts of the material in 1,000,000 parts of air. Threshold limit values are the ppm limits, set by American Conference of Governmental Industrial Hygienists, which most employees may be continuously exposed during their 8-hour working days without any adverse effect on their health.
- 24.3.7 Boiling point is that temperature at which a liquid boils and is an indicator of the relative vapor concentrations present over liquids at any given temperature. (The higher the boiling point, the lower the vapor concentration.)
- 24.3.8 Flash point is that temperature at which sufficient flammable vapors are evolved from a liquid to enable ignition. (The lower the flash point, the more flammable the solvent.)
- 24.3.9 Flammability limits denote the range, in percentage mixtures, of the material with air which will burn or if confined and ignited, will explode.
- 24.3.10 Positive ventilation is venting provided by ducting and fans or blowers as opposed to "comfort" or natural ventilation.
- 24.3.11 Safety containers are of welded seam construction with excess pressure relieving closure and wire mesh screens to prevent the propagation of flame into the container. Safety containers are painted red (some with one yellow stripe). The container must be plainly labeled as to contents.

24.4 SOLVENTS

- 24.4.1 All solvents remove protective oils from the skin on contact, increasing the possibility of dermatitis and infection. Some solvents may be absorbed through the skin to produce systemic effects.
- Repeated skin contact can cause a person to become sensitized to a given solvent.

- 24.4.2 All solvents have varying adverse effects if ingested. Hydrocarbon liquids produce respiratory complications if allowed to enter the lungs.
- 24.4.3 Vapor concentrations above a given solvent are highly difficult to predict, depending on the method of dispensing, agitation, temperature, air movement, and confinement. In any case, the concentration will be directly proportional to the area of the surface wetted under a given set of conditions.
- 24.4.4 Some of the solvent vapors may be detected by odor before the TLV is reached. However, this is not a reliable method for protection against overexposure, since some solvents paralyze the sense of smell.
- 24.4.5 Miscellaneous solvent supplies in work areas shall be reduced to the minimum amount necessary for daily operation.
- 24.4.6 Solvent containers for bench use shall be of smallest practical size and shall provide a method of dispensing without pouring (by wetting cloth, squeeze bottle, or plunger type safety container).
- 24.4.7 All wiping cloths used for solvents shall be placed in a closed container immediately after use.
- 24.4.8 Disposition of all solvent waste must be done by an environmentally approved method.
- 24.4.9 Spills shall be cleaned up immediately using respiratory protection. Clear the area of other persons as necessary.
- 23.4.10 No solvent shall be used in a fashion to permit skin contact with liquid. In most instances this means that gloves must be worn. Solvent contaminated clothing must be removed at once.
- 24.4.11 All use of solvent not in positively vented equipment or in an outside area shall require the use of respiratory protection. When using solvents inside a pit or confined area, regardless of quantity, personnel must wear level B protection and comply with confined space entry procedures.

24.4.12 Containers of solvents shall be labeled with an appropriate warning label.

24.4.13 The following precautions must be observed when opening full drums of solvents or chemicals:

- When opening full drums, all personnel in the immediate area must wear chemical goggles or a face shield; and,
- When removing the bung, the barrel must be in an upright position and a proper bung wrench used. The bung is to be loosened one turn, internal drum pressure allowed to reach atmospheric pressure, and then the bung may be removed. Never place head or face above a bung when opening.

24.5 FLAMMABLE LIQUIDS

24.5.1 General Information

- Definitions:
 - Class I Flammable Liquids: Includes those having a "flash point" below 100F;
 - Class II Combustible Liquids: Includes those having a "flash point" at or above 100F, but below 140F;
 - Class III Combustible Liquids: Includes those having flash point 140F, but below 200F;
- Handling and storing of flammable liquids in closed or approved safety containers and avoiding exposure of the liquid surface to air are of fundamental importance;
- Placards for flammable or combustible liquids are as follows:
 - "Flash point" of 20F or below: "DANGER! EXTREMELY FLAMMABLE";
 - "Flash point" from 20F to 100F: "WARNING! FLAMMABLE"; and,

- "Flash point" from 100F to 200F:
"CAUTION! COMBUSTIBLE".

24.5.2 Handling and Dispensing

- Drums in storage racks are to be a minimum of 50 feet from the nearest structure. All drums are to be electrically grounded. Drip trays are to be provided under drum spigots;
- A bond (metal-to-metal) is to be established between the container and drum prior to filling a container from the storage drum. Drums are to be equipped with an approved type safety faucet and flexible metal hose. A pressure-vacuum relief is required for drums of flammable liquids. Metal-to-metal contact may also be established by using a grounding strap.

24.5.3 Maximum use must be made of fireproof metal cabinets to store flammable liquids inside any maintenance shop or area.

24.5.4 Rags, kimwipes, etc. that are contaminated with flammable liquids are to be placed in approved hazardous waste containers.

24.5.5 All containers of flammable liquids must be properly identified as to contents.

24.5.6 Spill containment is required for all drum (solvent) dispensing areas.

24.5.7 All manually handled flammable liquids shall be handled in approved safety containers. The exception is pint-sized squirt bottles. Where flammable solvents must be used in wash containers, such as for paint sprayer cleaning, the container must be provided with self-closing or fusible like closure.

24.5.8 Flammable liquid in portable containers excess to the daily supply must be stored in approved flammable liquid storage cabinets maintained closed with the door latched each time after use.

24.5.9 Containers of flammable liquids shall be labeled with an appropriate warning label.

24.5.10 "NO SMOKING" signs are to be posted in areas where flammable liquids are stored, dispensed, or used.

24.5.11 Additional information and requirements for handling and storage of specific flammable liquids are included in the Material Safety Data Sheets or Site Safety Plans.

24.6 USE OF COMPRESSED AIR OR GASES

24.6.1 Compressed air or other compressed gases in excess of 10 psi are not to be used to blow dirt, chips, or dust from clothing while it is being worn.

24.6.2 Compressed air or gases are not to be used to empty containers of liquids where the pressure can exceed the safe working pressure of the container.

24.6.3 The use of compressed air is to be controlled, and proper personal protective equipment or safeguards utilized, as to protect against the possibility of eye injury to the operator or other persons. Compressed air used for cleaning (except clothing) is to be limited to 30 psi.

24.6.4 Compressed gases are not to be used to elevate or otherwise transfer any hazardous substance from one container to another unless the containers are designed to withstand the pressure with a safety factor of at least four.

24.7 COMPRESSED CASES (CYLINDERS)

24.7.1 Cylinders must never be dropped, struck, or permitted to strike each other violently. Cylinders may be moved by tilting and rolling them on their bottom edges.

24.7.2 Valve protection caps must always be kept on cylinders when they are being moved, stored, or until ready for use.

24.7.3 Cylinder valves are to be kept closed except when gas is being used or when connected to a permanent manifold. Valves of empty cylinders must be closed.

24.7.4 Cylinders must never be used as rollers or supports, or for any purpose other than carrying gas.

- 24.7.5 Cylinders of compressed gas shall be stored in areas where they are protected from external heat sources such as flame impingement, intense radiant heat, electric arc, or high temperature steam lines.
- 24.7.6 Cylinders are to be stored in an assigned area with full and empty cylinders separated. Stored fuel gases and oxygen cylinders are to be separated by 20 feet, or by a fire wall at least five (5) feet high having a fire resistance rating of at least one-half (1/2) hour.
- 24.7.7 Oxygen, nitrogen, helium, or freon cylinders may be stored or transported either in an upright or horizontal position. Acetylene cylinders must always be kept in an upright position. All horizontally placed cylinders are to be secured by chocks or ties to prevent rolling.
- 24.7.8 Cylinders are to be secured to a fixed object by chain or equivalent fastening device whenever they are placed in an upright position. The protective cap is not to be removed or the cylinder valve opened until the cylinder is secured.
- 24.7.9 Repair of leaks must never be attempted on a pressurized system. System pressure should be reduced to atmospheric pressure as rapidly as possible, and the supervisor notified immediately.
- 24.7.10 Compressed gas (in cylinders) must never be used to clean clothing or work surfaces.
- 24.7.11 Identification of the gas to be used must always be assured before connecting cylinders for use. All cylinders are to be labeled as to contents in addition to proper color coding.
- 24.7.12 Compressed gas cylinders in portable service are to be conveyed by suitable trucks to which they are securely fastened. All gas cylinders in service must be securely held in substantial racks or secured to other rigid structures so that they will not fall or be knocked over.
- 24.7.13 Gas cylinders moved by hoist must be handled in suitable cradles or skip boxes. The use of slings must be designed for that purpose.
- 24.7.14 Cylinders must not be placed where they might form part of an electrical circuit.

- 24.7.15 Transfer of acetylene from one cylinder to another, or mixing of gases in a cylinder, is prohibited.
- 24.7.16 Oxygen cylinders are never to be stored near:
- Highly combustible materials, especially oil and grease;
 - Reserve stocks of acetylene or other fuel gas cylinders; and,
 - Any other substance likely to cause or accelerate fire.
- 24.7.17 Cylinders are not to be used unless they bear D.O.T. markings showing that they have been tested and required by D.O.T. regulations.
- 24.7.18 Compressed gas cylinders must be legibly marked for the purpose of identifying the gas content with either the chemical or the trade name of the gas. Such markings are to be by means of stenciling, stamping or labeling, and must not be readily removable. Whenever practical, the marking is to be located on the shoulder of the cylinder.
- 24.7.19 Compressed oxygen is never to be used:
- As breathing air;
 - To purge pipelines, tanks, or any confined area;
 - To supply a head-pressure tank;
 - In pneumatic tools;
 - In oil preheating burners;
 - To start internal combustion engines;
 - For ventilation;
 - For cleaning clothing; or,
 - In any other way as a substitute for compressed air.
- 24.7.20 Use of a cylinder's contents for purposes other than those intended by the supplier is prohibited.

PORTABLE FIRE EXTINGUISHERS

25.1 POLICY

Portable fire extinguishers shall be maintained in a state of readiness at all times. This applies to work sites, shops and offices.

25.2 PURPOSE

This procedure describes requirements for the upkeep of portable fire extinguishers.

25.3 REQUIREMENTS

25.3.1 All fire extinguishers in offices, work-sites and in shops (for shop use) are to be mounted on walls.

25.3.2 The area adjacent to the mounted fire extinguishers is to be kept free of obstructions.

25.3.3 An inventory of all fire extinguishers is to be maintained by each office, work-site or shop. A checklist is used to ease this task.

25.3.4 Brief inspections are to be conducted monthly and documented on the checklist.

25.3.5 Any fire extinguishers not meeting the prescribed criteria shall be removed from service until the deficiencies are corrected.

CONSTRUCTION/DEMOLITION

26.1 POLICY

The company and its contractors will provide a safe workplace for construction/demolition activities in compliance with this procedure, this Health & Safety Plan and all applicable regulations.

26.2 PURPOSE

This procedure provides fundamental safety rules specifically addressing Construction/demolition project.

26.3 JOB SAFETY PLANNING

26.3.1 Hold a pre-job planning meeting soon after contract award to discuss owner, company, regulatory agency requirements, hazards and control measures involving company employees, equipment and materials. Refer to the federal and state safety and health regulations for specific requirements to include the following topics:

- Personal protective equipment required;
- Lighting for night operations;
- Fire prevention, fire fighting equipment;
- Ladders, scaffolds, nets, overhead protection and other temporary structure safety requirements;
- First aid and medical requirements;
- Traffic patterns, haul road layout, designated parking areas;
- Sanitary requirements, drinking water;
- Security;
- Prepare a site safety plan to be used as a guide in ordering safety documents and in developing the safety program at the start of the job; and,

- Order safety equipment to arrive ahead of need. Spell out safety features desired on new equipment being purchased. Check rented equipment before making agreements to be sure equipment has essential safety features.

27.3.2 Review Site Safety Plan:

- Status of safety equipment ordered;
- Any changed conditions and effect on safety requirements;
- Notifications to utility companies; and,
- Contacts with insurance carrier to obtain their recommendations.

26.3.3 Safety inspection of equipment: correct deficiencies before equipment goes to work. Required safety features must be installed on rented units.

26.3.4 Review safety program with subcontractors to familiarize them with requirements for safety. Give them a copy of the written program.

26.4 ORIENTATION OF JOB SITE PERSONNEL

26.4.1 Each employee is to be instructed in the recognition and avoidance of unsafe conditions and the regulations applicable to his/her work environment to control or eliminate hazards or exposures to illness and injury.

26.4.2 The following paragraphs describe the methods to be used and records to be maintained in the indoctrination session and tailgate meetings.

- New employees working in non-office environments shall be provided indoctrination as to the company safety program job site rules and safety rules pertaining to their job assignments prior to beginning work. This orientation shall be conducted by personnel knowledgeable in the requirements; and,

- Upon completion of the review of the site safety plan, workers will, sign the acknowledgement.

26.5 PROTECTION OF THE PUBLIC

All necessary precautions shall be taken to prevent injury to the public or damage to property of others. Precautions to be taken shall include, but are not limited to the following:

- 26.5.1 Work shall not be performed to any area occupied by the public unless specifically permitted by the contract or in writing by the construction manager.
- 26.5.2 When it is necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways and vehicular roadways, trade contractors shall protect the public with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields and adequate visibility.
- 26.5.3 Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors or exits shall be kept clear of obstructions to permit safe entrance and exit of the public at all times.
- 26.5.4 Appropriate warnings and instructional safety signs shall be conspicuously posted where necessary. In addition, a signalman shall control the movement of motorized equipment in areas where the public might be endangered.
- 26.5.5 Sidewalks, sheds, canopies, catch platforms and appropriate fences shall be provided when it is necessary to maintain public pedestrian traffic adjacent to the erection, demolition or structural alteration of outside walls on any structure.
- 26.5.6 A temporary fence shall be provided around the perimeter of above ground operation adjacent to public areas. Perimeter fences shall be at least six (6) feet high.

They may be constructed of wood or metal frame and sheathing, wire mesh, or a combination of both. When the fence is adjacent to a sidewalk near a street intersection, at least the upper section of fence shall be open wire mesh from a point not over (4) feet above the sidewalk and extending at least twenty-five (25) feet in both directions from the corner of the fence or as otherwise required by local conditions.

Guardrails shall be provided on both sides of vehicular and pedestrian bridges, ramps, runways, and platforms. Pedestrian walkways elevated above adjoining surfaces, or walkways within six (6) feet of the top of excavated slopes or vertical banks shall be protected with guardrails. Guardrails shall be made of rigid materials capable of withstanding a force of at least two hundred (200) pounds applied in any direction at any point in their structure. Their height shall be approximately forty-two inches. Top rails and posts may be two (2) inches by four (4) inches dressed wood or the equivalent. Intermediate horizontal rails at mid-height and toeboards at platform level may be one (1) inch by six (6) inch wood or the equivalent. Posts shall not be over eight (8) feet apart.

26.5.7 Barricades where required shall be secured against accidental displacement and shall be maintained in place except where temporary removal is necessary to perform the work. During the period a barricade is temporarily removed for the purpose of work, a watchman shall be placed at all openings.

26.5.8 Temporary sidewalks shall be provided when a permanent sidewalk is obstructed by the trade contractor's operation. They shall be installed in accordance with the requirements listed above.

26.5.9 Warning lights shall be maintained from dusk to sunrise around excavations, barricades or obstructions in plant areas. Illumination shall be provided from dusk to sunrise for all temporary walkways in both plant and construction areas,

26.6 HOUSEKEEPING

A basic concept in any effective prevention endeavor is good housekeeping. No one item has a

greater impact on the overall success of a safety program for a construction project.

The importance of good housekeeping is such that it must be planned for from the beginning to the final clean-up. The degree of attention given to housekeeping will normally be reflected in the accident record, as well as in construction efficiency.

26.6.1 During the course of construction, work areas, passageways, and stairs in and around buildings and structures shall be kept clear of debris. Construction materials shall be stored in an orderly manner. Storage areas and walkways on the site shall be maintained free from dangerous depressions, obstructions, and debris.

27.6.2 The essential elements of good housekeeping are:

- Orderly placement of materials, tools, and equipment;
- Placing receptacles at appropriate locations for the disposal of miscellaneous rubbish; and,
- Prompt removal and disposal of trash and waste materials.

26.7 SCAFFOLDING

26.7.1 The footings and anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement.

26.7.2 A safe means of access to an egress from the work level must be provided. Ladders used for access/egress must be secured at top and bottom. Ladder frame scaffolds must not be offset or used with other scaffold frames.

26.7.3 No scaffold shall be erected, moved, dismantled, or altered, except under the supervision of competent persons.

26.7.4 Scaffolds and their components shall be capable of supporting without failure at least four times their maximum intended load.

26.7.5 Guardrails and toeboards shall be installed on all open sides and ends of platforms more than ten (10) feet above the ground or floor.

26.8 WORK AREA PROTECTION

26.8.1 Open sided floors and roofs. Any open area four (4) or more feet above adjacent surfaces shall be protected by a substantial guardrail able to resist 200 lbs. of horizontal force, a steel perimeter cable, or a warning system such as flagging or caution tape installed a minimum of six feet from the exposed edge of the surface.

26.8.2 Floor openings. Floor openings through which personnel or material can pass should be protected by a cover or barricade substantial enough to withstand any anticipated load. Covers shall be anchored and identified, to prevent accidental removal or displacement.

26.8.3 Warning signs, barricades, and flagging are to be used to warn personnel of potential or hidden hazards or advise of intermittent activities which might endanger outside personnel. They are not to be used in lieu of more effective protection.

26.8.4 Ventilation. Adequate ventilation or localized exhaust may be required to satisfy the work environment requirement of OSHA, (1926.55, 57). Such equipment as is necessary shall be furnished by the trade contractor unless other arrangements have been made in writing.

26.8.5 Illumination. If temporary illumination furnished by others is inadequate, the trade contractor is responsible to notify the construction manager of these deficiencies.

26.8.6 Protection of vertical rebar. Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been covered or protected to eliminate the hazard of persons falling on it and being impaled.

VEHICLE AND EQUIPMENT OPERATION

27.1 POLICY

Concern for safe operation of vehicles cannot be overemphasized. vehicle operations represent perhaps one of the greatest potentials for serious loss because the public is involved and court awards to injured parties can be staggering. It is essential, therefore, that the company has an effective, well organized Vehicle Safety Plan.

27.2 PURPOSE

This procedure establishes requirements for safe operation of vehicles and equipment.

27.3 REQUIREMENT - VEHICLES

27.3.1 All vehicles operated in interstate transportation are subject to the Interstate Commerce Commission and Bureau of Motor Carrier Safety Regulation. Measures shall be established to assure that drivers and equipment meet those regulatory requirements.

27.3.2 The Safety Director is responsible for the following:

- Assuring that all vehicle accident reports from all jobs are processed and the required number of copies submitted the local, state, and federal agencies;
- Assuring that the corporate president of the company is notified by telephone of accidents that involve fatalities or multiple serious injuries;
- Establishing and conducting a training program, if required; and,
- Investigation of all accidents to establish the when, where, and why the accident occurred and for assuring action to prevent recurrence.

All accidents shall be documented and investigated by the Health and Safety Department. The investigation should be sufficient depth to determine the cause and action required to prevent recurrence. copies of all motor vehicle accidents shall be forwarded to the insurance carrier.

27.4 REQUIREMENTS - EQUIPMENT

27.4.1 General - The following safety rules apply to all types of operators:

- Air Hose and Couplings - Periodically check air hose and couplings and compressor hoses for worn or damaged parts.
- Backing Up - Never start or back up equipment or vehicles until you are sure the way is clear. If necessary, have another person guide you safely. Back up alarms, when required, must be working and audible over the surrounding noise.
- Boots and Shoes - Wear sturdy work shoes or boots. Hobnailed boots or shoes should not be worn due to the slipping and snagging hazard they present.
- Cranking - When crank starting a motor, place thumbs next to the index fingers and not around the crank handle. Pull up on the crank - never push down. This method avoids injury in case of engine kickback.
- Ear Protection - Ear plugs or other approved ear protection shall be worn when necessary.
- Emergency Vehicles - Give ambulances, fire fighting equipment and other vehicles the right-of-way during emergencies and lend assistance if required.
- Fueling and Repair - No fueling or repair shall be made to equipment while it is in operation. The motor shall be turned off and the bucket, glade, gate or boom shall be lowered to the ground or blocks.

- Gasoline - Gasoline and other combustible liquids shall not be carried in or on vehicles other than in permanent gas tanks or in approved safety cans.
- Gloves - Heavy gloves should be worn when handling wire rope and other rough materials.
- Housekeeping - Operators should keep deck plates, steps, rung and hand rails on equipment free of grease, oil, ice, and mud. The inside of the cabs shall also be kept clean and free of flammable items.
- Inspections - Inspect the unit to which you are assigned to make sure it is in safe operating condition. These inspections shall be made at least at the start of each shift and defects or discrepancies shall be reported to the supervisor immediately. Equipment forms are available to record this data. Equipment and vehicles shall not be used until defects or discrepancies are repaired unless they do not affect the safe operation of the equipment or vehicle.
- Jumping - Jumping on or off equipment is prohibited. When climbing on or off equipment or vehicles, face the unit and use secure hand and foot holds to prevent slips and falls. Always look where you are stepping.
- Know your Equipment or Vehicle - It is your responsibility to be thoroughly familiar with all features, plates, and manuals and if you are in doubt as to correct operating techniques or safety features, ask your supervisor at once.
- Law and Regulations - Learn and obey all local, state, and federal laws and the client's stipulations.
- Moving Equipment - Do not attempt to get off or on any equipment or vehicle while it is in motion.

- Overloading - Avoid overloading vehicle beds and equipment buckets and beds. Excessive material can damage the unit and falling material can cause serious injury.
- Pedestrians - Be constantly alert for pedestrians. Remember they have the right-of-way.
- Power Lines - When operating high trucks, cranes, shovels or other units, always use caution around power lines and maintain a safe clearance of 10 feet or more depending upon the voltage.
- Qualifications - Only fully qualified and authorized personnel shall operate construction equipment or vehicles.
- Riders - Only authorized persons will be permitted to ride in equipment or vehicles.
- Seat Belts - If unit is equipped with seat belts, operator and passengers must keep seat belts fastened at all times during operations.
- Securing Equipment and Vehicles.
 - All units shall be secured so that they cannot be started or moved by any unauthorized person during off-work hours.
 - All mobile units shall be secured in some way whereby they cannot move freely after they are parked.
 - The key should be removed after securing equipment or vehicle and turned over to an authorized supervisor.
- Shoulders and Ditches - Do not operate too close to the edge of shoulders, cuts, or fills and ditches.
- Slow Down - Slow down and use caution at blind intersections and crossing when visibility is limited or when passing work crews.

- Smoking - Do not smoke during refueling or servicing operations. Do not throw lighted material from vehicles or equipment.
- Speeding - Speeding is dangerous and is strictly prohibited.
- Thumbs Up - Keep thumbs up when driving. Do not grasp the steering wheel with thumbs inside the spokes.
- Visibility - Make sure all windshields, side and rear windows, mirrors and lights are clean before moving the unit.
- Warning Signs and Traffic Signals - Be alert for and strictly obey all directional and warning signs and signals.

27.4.2 Trucks, Pickups, and Other Vehicle Operators:

- Blind Curves - Slow down and sound horn when approaching a blind curve.
- Drivers License - Always carry your drivers license with you when operating a vehicle and make sure it is current.
- Heavy Rock and other Material - Do not remain in an open cab truck while being loaded with heavy rock or other material presenting a falling hazard. Dismount and move to a safe distance and observe the loading.
- Hooks - Hooks or calipers on the "A" frame of trucks should be securely fastened to prevent swinging when not in use. Stand clear of the "A" frame.
- Loading - Materials and equipment shall be properly loaded secured to prevent shifting or loads or loss of material during transit.
- Overhanging and Oversize Loads - When it is necessary to transport overhanging or oversize loads, the appropriate signs and red flags and red lights will be used. When necessary, use flag cars.

- Safety Chains - Safety chains of sufficient size and strength shall be installed on all trailers being towed.
- Safety Hooks - Use safety hooks on all winch truck cables.
- Stopping - Always use turn signals, emergency and other signals as appropriate when turning, stopping, passing, or performing other vehicle operations.
- Turn Signals - Always use turn signals, emergency and other signals as appropriate when turning, stopping, passing, or performing other vehicle operations.
- Vehicle maintenance - it is the drivers responsibility to see that his vehicle is in good mechanical condition before and during operation. Special emphasis should be placed on ensuring the brakes, lights, horn, windshield wiper, tiers and steering assembly are in good order. Defects must be reported and corrected immediately.

27.4.3 Building Hoist Operators:

- Communications - Learn and abide by the approved signal system. Have proper communication with all floors as necessary and the ground before operating hoist.
- Hoist Platform - Never move the hoist platform unless you understand the proper signal and you are sure the way is clear.
- Riders - Do not haul riders on material hoist and do not haul riders and material together on a personnel hoist.

27.4.4 Crane, Shovel and Dragline Operators:

- Boom Deflection - Keep the boom free of all objects and structures. If boom is allowed to rest against structures, it can cause deflection under load.

- Capacity - Do not make lifts exceeding the carrying capacity of crane cables, ropes, and slings.
- Control - Make sure you have the load under control when -raising and lowering. Use slow, uniform and steady movements for safe, efficient operation.
- Drums - Do not lower blocks below the point where less than two full wraps of cable remain on the drum.
- Fire Extinguishers - Each cab-type crane, shovel, or dragline will be provided with a company approved fire extinguisher. Operators are responsible to check these extinguishers daily and to obtain a replacement if defective or after being used.
- Flammable Liquids - Do not keep gasoline or flammable solvents in crane, shovel, or dragline cabs.
- Hand Signals - Only the standard hand signals recommended by the International Union of operating Engineers will be used. These should be posted on the equipment.
- Hoisting - Start hoisting load slowly and smoothly. Avoid jerking the load as this may throw the crane or shovel off balance. Follow the same procedure when stopping the load.
- Housekeeping - Keep all deck plates, ladders and walkways on machine clear of oil and grease. Keep walkways and passageways clear of tools and materials.
- Inclement Weather - Check brakes and hoisting equipment during wet or icy weather before raising a load. Wet frictions frequently cause load slippage. Loads should not be lifted during strong or gusty winds.

- Level Surface - Keep the rig on a firm, level surface. When the ground is uneven, muddy or, soft, mats or timbers will be used to level the rig and to provide a firm foundation from which to work.
- Loads:
 - Do not leave a load hanging or a bucket or clam full of material during lunch or after quitting.
 - Loads should not be held for extensive lengths of time by the brake. "Dog" it off where possible or secure by blocking. Operators must not leave the controls while load is suspended.
 - Make certain the unit and its rigging are capable of handling the intended load at the anticipated radius. Check capacity charts.
 - Raise heavy loads slightly off the ground level and hold long enough to test the rig.
 - Be sure that the slings are attached to the load properly and that all loose material has been secured or removed before starting to lift.
- Maintenance - It is the operator's responsibility to see that his or her equipment is in safe working condition prior to and during each shift. Special attention should be paid towards brakes, sheaves, cables, hooks, cramps, boom, boom stops, and outriggers. Defects which affect the safe operation of the equipment must be corrected prior to operating the equipment.
- Operating Boom: use caution when swinging booms. Be constantly alert for other workers in the vicinity of your equipment. Place the load boom directly over the load before starting the hoist to avoid swinging the load.

- Oilers and Mechanics - Watch out for the oiler or mechanics. They may be inexperienced and your instructions or advice may be needed to ensure their safety.
- Outriggers - Use outriggers according to the manufacturer's operating recommendation and at all times when the stability of the crane is unknown or questionable.
- Overhang - Use extreme caution when working close to overhanging material and make sure there is no danger of cave-ins.
- Power Lines - State and other -regulations forbid the operation of booms or other parts of a crane or shovel within specified distances from electric power lines. Know the standard before operating crane or shovel. At no time shall boom or cables be worked with 10 feet of energized power line. Warning decals should be mounted in the cab.
- Riding - Workers shall not be permitted to ride headache balls, buckets, hooks, or skip boxes except in emergencies or for the purpose of inspection and maintenance and then only under the specific direction of the supervisor.
- Signalman - Take signals only from the one person supervising the lift or designated as signalmen. Obey a stop signal at all times regardless of who gives it.
- Suspended Bucket and Boom - Always leave bucket and/or boom in a safe position or lower to a spoil pile. Always place it in a position to avoid a hazard in the work area.
- Trenches - Avoid placing rigs in close proximity to trenches or embankments where the ground is likely to give way or shift.

- Wire Lines - Inspect all cables periodically for wear or fraying. when spooling or reeling cable, never guide moving cable with the hands.

27.4.5 Front End Loader Operators:

- Brakes - All loaders will have operable brakes. Faulty brakes shall be reported to your supervisor at once.
- Loader Bucket - Loader bucket shall be lowered to the ground when not in use.
- Loading - When loading trucks, know what is on the other side of the truck.
- Raised Bucket - When traveling with the bucket raised, bucket should not be above the top of radiator of the machine where it would obstruct the operator's view.

27.4.6 Scrapers, Dozers, Tractors, and Other Heavy Equipment Operators:

- Clothing - operators must be careful not to wear loose or torn clothing which can get caught in tracks or other moving parts of the machinery.
- Coasting - Never coast with any type of equipment. Always keep the power on and the equipment in gear.
- Dozer Blade - Do not use the dozer blade as a brake when coming down a slope or hill, except in case of brake failure.
- Hydraulic or Winch Driven Equipment - Dozer and grader blades, ripper teeth, scraper gates and beds and other similar equipment must always be lowered to the ground or blocks when equipment stops or is secured for the shift.
- Inclined Surface - Never leave equipment on an inclined surface or on loose material with the motor idling as the vibration may put the machine in motion.

- Riders - Operators will not allow riders to ride draw bar, clutch hosing, boom or boom winch. only specifically authorized persons will be allowed to ride jump seats, if equipment is so equipped.
- Running Wire - Inspect all cables periodically for wear. When spooling or reeling cable, never guide moving cable with the hands.
- Safety Equipment - Check and insure all guards, canopies, safety bars and other safety equipment are installed and in good order prior to operating equipment.
- Traveling - When moving equipment, keep dozer blade and scraper bowl close to the ground but high enough to avoid rocks and other obstacles.
- Winches - Inspect winch brakes, cables and pins periodically. When indicated, have repairs made before using.

EMERGENCY RESPONSE

28.1 POLICY

Personnel assigned to emergency response operations will be appropriately trained. Equipment and supplies dedicated to emergency response will not be utilized for day to day operations.

28.2 PURPOSE

This procedure describes minimum requirements for emergency response operations involving hazardous materials.

28.3 GENERAL REQUIREMENTS

28.3.1 Supplies and equipment dedicated to emergency response will not be used in day to day operations.

- Spill Control Kits will have an inventory of required supplies.
- Analytical equipment (e.g., Draeger tubes) will be inventoried monthly or after each use. Deficient or out of date items will be restocked immediately.

28.3.2 OSHA regulations require that the senior officer responding to an incident involving a hazardous substance or waste will establish an Incident Command System (ICS). See also Section No. 28 "Emergency Response".

28.3.3 All emergency response activities will comply with all procedures as stated in the company's Emergency Procedures.

28.3.4 A Site Safety Officer will be assigned at all emergency response sites.

28.4 SITE SAFETY PLAN

All emergency response sites will have a site safety plan approved by the Safety Director or his designee. The site safety plan will consist of the following elements:

- 28.4.1 All hazardous substances or conditions will be identified to the extent possible.
- 28.4.2 Appropriate personal protective equipment is to be worn on site and be so specified in the plan:
- Protective clothing;
 - Gloves;
 - Hard hat;
 - Eye protection;
 - Respiratory protection; and,
 - Foot protection.
 - An SCBA in the pressure demand mode are to be worn during emergency operations until air monitoring indicates a lower level of protection is justified.
- 28.4.3 The site supervisor will limit the number of emergency response personnel at the emergency site to those who are actively performing emergency operations. However, operations in hazardous areas will be performed using the buddy system in groups of two or more. Back-up personnel will be standing by with equipment ready to provide assistance or rescue. Qualified basic life support personnel, as a minimum, will also be standing by with medical equipment and transportation capability.
- 28.4.4 The site safety officer will have authority to suspend or terminate activities deemed to be unsafe or involve an imminent danger condition.
- 28.4.5 Decontamination will be mandatory upon leaving the exclusion zone per Health and Safety Plan Section No. 14.
- 28.4.6 Employees involved in emergency response operations will participate in the medical surveillance program per Health and Safety Plan Section No. 6.

CONTRACTOR REQUIREMENTS

29.1 POLICY

Contractors will comply with all applicable health and safety regulations as well as site safety plans.

29.2 PURPOSE

The purpose of the procedure is to provide contracting agents a method to verify contractor compliance with health and safety requirements.

29.3 REQUIREMENTS

29.3.1 Contracting agents shall forward copies of the attached documents to prospective contractors or subcontractors as part of the contractor prequalification process.

29.3.2 Contracting agents shall assure completion of the Contractor Site Safety Rules Checklist and maintain copies with the project file.

30.3.3 Supervisors shall maintain copies of forms at work sites for issuance to contractors.

30.3.4 Prior to any contractor commencing excavation, drilling, digging, trenching, or other activities where they may be either knowingly or unknowingly exposed to contaminated environmental media (i.e. surface/subsurface soils, surface water and or sediments, or ground water.) They shall first:

- i. Make their intentions and specific plans known to the facility health and safety office;
- ii. The H&S office shall determine if activities will potentially expose workers to contaminated media;
- iii. The H&S office shall provide appropriate environmental media health and safety training, plans, contaminant information and personal protective equipment (if applicable) to workers undertaking the work prior to planned activities;

- iv. Thereafter, the environmental office shall ensure that contractors working in potential or know areas of contamination are properly trained and protected.
- 29.3.5 Contractor employees shall attend a site safety plan review prior to the start of each project and sign the acknowledgement form in Appendix A.
- 29.3.6 Contractors who use company owned personal protective equipment or other supplies will sign the indemnification and release agreement.
- 29.3.7 Copies of all forms described in this section are attached in Appendixes L and M.

29.1 EMERGENCY FACILITY EVACUATION

The emergency alarm is one long continuous blast (approx. 3 seconds) on the air horn located at the operations control room followed by an announcement on the public address (P/A) system to clarify the emergency situation. The announcement is followed by another long continuous blast (approx. 3 seconds) on the air horn. Whenever the emergency alarm has been sounded, all contractor personnel on site are to respond as follows:

1. Shut off any vehicle motor, welding machine or motorized equipment that is in service.
2. Leave the keys in the vehicles.
3. Do not attempt to move the vehicles or collect personal belongings.
4. Contractor personnel located in any area west of the operations control room will exit the plant through Gate 1 (administration building), Gate 2 (Loader's shack), Gate 3 (Loader's shack) or Gate 4 (Pine Street).
5. Contractor personnel located in any area east of the operations control room will exit the plant through Gate 5 (covered storage area), Gate 6 (employee parking lot) or Gate 7 (Maintenance Shop/Oak Street).
6. Stay calm and move quickly but do not run.
7. Assemble at the northeast corner of Pine Street and Alameda Street intersection on the sidewalk in front of the Asbury Office Building.
8. A head count will be taken at the assembly area...be sure that you have been included in the head count.

END OF PROCEDURES

APPENDIX A

**WORKER ACKNOWLEDGEMENT
TO HEALTH AND SAFETY PLAN**

APPENDIX B

EMPLOYEE INCIDENT REPORT

(ORIGINAL FORM IS IN TRIPLICATE)

(ORIGINAL FORM IS IN TRIPLICATE)

EMPLOYEE INCIDENT REPORT

FACILITY#: _____

DEPARTMENT: _____

PLEASE PRINT • COMPLETE ALL ITEMS • SUBMIT IMMEDIATELY

Employee Name:		Occupation:	
Address:		Home Phone:	
Date of Birth:	Soc Sec #:	Date of Hire:	
Date of Injury:	Age:	Sex:	Shift: Day <input type="checkbox"/> Evening <input type="checkbox"/> Night <input type="checkbox"/>
Time of Injury: AM	PM	Location of Incident:	
Date Reported:	Time Reported:	Reported to Whom?:	

(1) Was employee given First Aid: Yes <input type="checkbox"/> No <input type="checkbox"/>	(3) Was Employee placed on modified duty? Yes <input type="checkbox"/> No <input type="checkbox"/>
(2) Sent to: Emergency Room Yes <input type="checkbox"/> No <input type="checkbox"/>	(4) Will Employee lose time for work? Yes <input type="checkbox"/> No <input type="checkbox"/>
Preferred Provider Yes <input type="checkbox"/> No <input type="checkbox"/>	(5) If lost time; approximate days: _____
Personal Physician Yes <input type="checkbox"/> No <input type="checkbox"/>	(6) Was treatment refused? Yes <input type="checkbox"/> No <input type="checkbox"/>
Other: _____	
Name and Address: _____	

Attach statement of all witnesses

NAME OF WITNESS	DEPARTMENT OR ADDRESS	PHONE#
(1)		
(2)		
Describe in detail what employee was doing at time of injury (what, how and why)		
Describe what unsafe act/unsafe condition contributed to the incident (i.e. improper body mechanics; wet floors)		
Part of body injured (check) Indicate Right or Left when applicable 1 <input type="checkbox"/> head 11 <input type="checkbox"/> hand 21 <input type="checkbox"/> groin 2 <input type="checkbox"/> face 12 <input type="checkbox"/> finger 22 <input type="checkbox"/> no injury 3 <input type="checkbox"/> eye 13 <input type="checkbox"/> knee 23 <input type="checkbox"/> other 4 <input type="checkbox"/> ear 14 <input type="checkbox"/> leg 5 <input type="checkbox"/> mouth 15 <input type="checkbox"/> ankle 6 <input type="checkbox"/> heart 16 <input type="checkbox"/> foot 7 <input type="checkbox"/> back 17 <input type="checkbox"/> toe 8 <input type="checkbox"/> trunk 18 <input type="checkbox"/> hip 9 <input type="checkbox"/> arm 19 <input type="checkbox"/> neck 10 <input type="checkbox"/> wrist 20 <input type="checkbox"/> shoulder	Type of Injury (check) 1 <input type="checkbox"/> reaction to foreign substance/objects 2 <input type="checkbox"/> puncture 3 <input type="checkbox"/> laceration 4 <input type="checkbox"/> contusion 5 <input type="checkbox"/> burn 6 <input type="checkbox"/> fracture 7 <input type="checkbox"/> amputation 8 <input type="checkbox"/> sprain/strain 9 <input type="checkbox"/> other	Incident Category (check) 1 <input type="checkbox"/> unsafe act or procedure 2 <input type="checkbox"/> back injury from lifting objects 3 <input type="checkbox"/> fall on floor/surfaces 4 <input type="checkbox"/> injury from falling objects 5 <input type="checkbox"/> falls from stair obstacles 6 <input type="checkbox"/> unsafe or defective equipment 7 <input type="checkbox"/> improper use of equipment/instruments 8 <input type="checkbox"/> horseplay 9 <input type="checkbox"/> other
What type of training has been conducted to prevent recurrence?		

Employee statement on how incident occurred
Employee statement on how recurrence of incident could be prevented.

Date prepared _____

Supervisor/Department Head _____

Employee signature _____

Administrator _____

APPENDIX C

DIRECT READING INSTRUMENT LOG

APPENDIX D

TRAINING RECORD (SIGN UP SHEET)

Training Record - Sign-in Sheet

Date: _____ Time: _____ Location _____

Training Topic: _____

Handouts: _____ Videos: _____

Trainer/Speaker: _____

Note: By signing this form, the employee acknowledges that he/she has attended this training, and has received the above-mentioned handouts, as stated.

Employee Attending - Print Name

Employee Signature

1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____
11.	_____	_____
12.	_____	_____
13.	_____	_____
14.	_____	_____
15.	_____	_____
16.	_____	_____
17.	_____	_____
18.	_____	_____
19.	_____	_____
20.	_____	_____
21.	_____	_____
22.	_____	_____
23.	_____	_____
24.	_____	_____
25.	_____	_____

APPENDIX E

TRAINING RECORD

Training Record

Name: _____

Position: _____

I attended the Company training on this day, _____,
on the following:

Employee Signature

Trainer

APPENDIX F

RESPIRATOR FIT TEST RECORD

RESPIRATOR FIT TEST RECORD

A. EMPLOYEE: _____ DATE: _____

EMPLOYEE NO: _____

EMPLOYEE JOB TITLE/DESCRIPTION: _____

B. EMPLOYER: _____

LOCATION/ADDRESS: _____

C. RESPIRATOR SELECTED: _____

MANUFACTURER: _____ MODEL: _____

NIOSH APPROVAL NUMBER: _____

D. CONDITIONS WHICH COULD AFFECT RESPIRATOR FIT:

- | | | |
|---------------------------------------|---|--|
| <input type="checkbox"/> CLEAN SHAVEN | <input type="checkbox"/> 1-2 DAY GROWTH | <input type="checkbox"/> 2+ DAY GROWTH |
| <input type="checkbox"/> MOUSTACHE | <input type="checkbox"/> FACIAL SCAR | <input type="checkbox"/> DENTURES ABSENT |
| <input type="checkbox"/> GLASSES | <input type="checkbox"/> NONE | |

E. FIT CHECKS:

- | | | | |
|-------------------|-------------------------------|-------------------------------|-----------------------------------|
| NEGATIVE PRESSURE | <input type="checkbox"/> PASS | <input type="checkbox"/> FAIL | <input type="checkbox"/> NOT DONE |
| POSITIVE PRESSURE | <input type="checkbox"/> PASS | <input type="checkbox"/> FAIL | <input type="checkbox"/> NOT DONE |

F. FIT TESTING:

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> QUANTITATIVE | <input type="checkbox"/> ISOAMYL ACETATE | <input type="checkbox"/> IRRITANT SMOKE |
| | QUALITATIVE | QUALITATIVE |
| FIT FACTOR _____ | <input type="checkbox"/> PASS | <input type="checkbox"/> PASS |
| | <input type="checkbox"/> FAIL | <input type="checkbox"/> FAIL |

COMMENTS: _____

C. EMPLOYEE ACKNOWLEDGEMENT OF TEST RESULTS:

EMPLOYEE SIGNATURE: _____ DATE: _____

TEST CONDUCTED BY: _____ DATE: _____

APPENDIX G

**SCBA/AIRLINE RESPIRATOR
INSPECTION LIST**

D/K ENVIRONMENTAL, INC.

Monthly SCBA/Airline Respirator Inspection List

Year: _____

SCBA ID No.: _____

Time:	AM / PM		AM / PM		AM / PM		AM / PM		AM / PM		AM / PM	
Inspector:												
	January, 20		February, 20		March, 20		April, 20		May, 20		June, 20	
	operational	non operational	operational	non operational	operational	non operational	operational	non operational	operational	non operational	operational	non operational
Breaks or Tears												
Loss of Elasticity												
Broken Buckles												
Excessive Worn												
SCBA Cylinders filled to specific pressure												
Condition of component parts (face mask, connecting tubes, head harness, valves, etc.)												
Cleaned and sanitized												
Condition of hoses												
Fittings and Nozzles												
Pressure indicator gauges												

Time:	AM / PM		AM / PM		AM / PM		AM / PM		AM / PM		AM / PM	
Inspector:												
	July, 20		August, 20		September, 20		October, 20		November, 20		December, 20	
	operational	non operational	operational	non operational	operational	non operational	operational	non operational	operational	non operational	operational	non operational
Breaks or Tears												
Loss of Elasticity												
Broken Buckles												
Excessive Worn												
SCBA Cylinders filled to specific pressure												
Condition of component parts (face mask, connecting tubes, head harness, valves, etc.)												
Cleaned and sanitized												
Condition of hoses												
Fittings and Nozzles												
Pressure indicator gauges												

APPENDIX H

**CONFINED SPACE AND
VESSEL ENTRY PERMIT**

D/K ENVIRONMENTAL

Confined Space Entry Permit

Date of Permit: _____ Time: From: _____ AM / PM To: _____ AM / PM

REQUIRED FOR - Please check appropriate box:

Hazardous Area

Confined Space

Vessel Entry

Rail Car

Checklist	Yes	N/A	Requirement
Vessel, Equipment, or Confined Space Preparation			Emptied / Drained
			Cleaned / Washed
			Checked for Residuals
			Ventilated / Purged
Lines Carrying Material to or from Vessel, Equipment, or Confined Space			Disconnected / Blinded
			Drained / Purged
			Valves Tagged and / or Locked
Atmospheric Test Prior to Entry			Explosion Meter
			Oxygen Meter
Pre - Work Entry Briefing			Briefing Conducted
			Special Hazards
Observation and Rescue During Work			Safety Watcher
			Back - Up Rescue
Protective Equipment Provided			Air Line / SCBA
			Filter Respirator
			Gloves
			Body Protection / Boots
			Safety Glasses / Goggles / Face Shield
Special Equipment Provided			Safety Cage / Ladder
			Barricades / Warning Signs
			Appropriate Lighting
Persons Authorized to Work			Observers / Watchers
1.			1.
2.			2.
3.			3.

I have reviewed this permit and verified that all necessary precautions have been taken and authorize work begin:

Signature: _____ Title: _____ Date: _____

APPENDIX I

HOT WORK PERMIT

(ORIGINAL FORM IS IN QUADRUPLICATE)

(ORIGINAL FORM IS IN QUADRUPLICATE)

1264

SMITH GRAPHICS SERVICES (909) 597-7082 • FAX (909) 597-3575

HOT-WORK PERMIT

Permit Start Date: _____
Work To Begin at: _____ a.m./p.m.

7600

SECTION (1) ORIGINATOR

Permission granted to: _____
Description of work planned: _____
Location: _____

ITEM	Y	N A	ITEM	Y	N A
A. Equipment has been properly blinded/blanked.			E. Special warning/caution signs posted.		
B. Other maintenance activities will not impact the job.			F. Welding machine safely located.		
C. Non-essential materials have been removed and house-keeping is maintained.			G. Ventilation equipment installed and operating.		
D. Sewer openings covered.					

Comments: _____

P.P.E.

<input type="checkbox"/> Eye Protection	<input type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Fire Watch
<input type="checkbox"/> Respirator	<input type="checkbox"/> Fire Hose	<input type="checkbox"/> Steam Hose
	<input type="checkbox"/> Safety Belt/Lifeline	

Comments: _____

SECTION (2) OPERATIONS

ITEM	Y	N A	ITEM	Y	N A
A. Equipment has been properly drained, purged and cleaned.			D. Liquid level and pressure proper for welding.		
B. Equipment has been blinded.			E. Flammable liquid removed from area		
C. Other units which may affect or be affected have been modified.			F. Equipment has been locked out and tagged.		

Comments: _____

SECTION (3) APPROVAL SIGNATURES

JOB TITLE	SIGNATURE	DATE
MAINTENANCE. I attest that the permit conditions have been met as outlined in Section 1 as well as PPE requirements.		
OPERATIONS MANAGER. I attest that the permit conditions have been met as outlined in Section 2.		
SAFETY. I have reviewed and concur with all requirements in Section 1 and 2 and have taken the necessary tests at the job site.		
WELDER. I have read and understand the conditions in Section 1 and 2.		

OPERATIONS

APPENDIX J

LOCKOUT/TAGOUT DANGER TAG

<p>5010-C-B </p> <p>DANGER</p> <p>DO NOT OPERATE</p> <p>This Lock/Tag may only be removed by: Name: Date: Dept: Expected Completion Date: • Vea Otro Lado Para Español •</p>	<p>PELIGRO</p> <p>NO USAR</p> <p>Esta etiqueta pueda ser quitada solo por: Nombre: Fecha: Dept. Fecha Proyectada de finalización: • See Other Side for English •</p>
---	---

APPENDIX K

**INDEMNIFICATION AND
RELEASE AGREEMENT**

INDEMNIFICATION AND RELEASE AGREEMENT

FOR AND IN CONSIDERATION OF the use by the undersigned of property belonging to DeMenno/Kerdoon and/or D/K Environmental (hereinafter referred to as D/K and DKE, respectively) which may include full-face mask respirators, self contained breathing apparatus, and other equipment and supplies, and other good and valuable consideration, the undersigned, for himself and his successors, and assigns, does hereby release and discharge D/K and DKE, their officers, employees, agents, and subcontractors from any and all claims, actions, demands, damages, costs, loss of service, expenses, compensation, third party actions, or suits, including attorneys fees, arising and resulting from the aforementioned use of property, equipment, or supplies belonging to D/K and/or DKE.

In particular, the undersigned, for himself and his successors, and assigns, agrees to save, hold harmless, protect, indemnify, and defend D/K and DKE and its officers, employees, agents, and subcontractors against any and all claims, actions and expenses as above described, whether for bodily injury, property damage or destruction, or both, arising or resulting in any way from the use by the undersigned of property of D/K and/or DKE agrees to save, hold harmless, protect, indemnify, and defend D/K and DKE against any such claims, actions, or expenses, referenced above, that might be brought against D/K and/or DKE by any third persons or the heirs, successors, executors or assigns of the undersigned.

The undersigned acknowledges by the signing hereof that he has carefully read this Agreement, understands the contents thereof, and has freely and voluntarily signed the same.

WITNESS my hand this _____ day of _____, 20_____.

SIGNED AND ACKNOWLEDGED IN THE PRESENCE OF:

D/K, DKE Representative
Signature

Date

Contractor
Signature

Date

Name Printed

Name Printed

APPENDIX L

**CONTRACTOR SITE SAFETY
RULES CHECKLIST**

CONTRACTOR SITE SAFETY RULES CHECKLIST

The following check list shall be reviewed and signed by the prime contractor, his sub-contractor(s), and the project manager or site supervisor of designees, prior to the scheduled start of a job. While the job is in progress, where applicable, hazardous operations permits shall be obtained on a daily basis, or more frequently, as appropriate to assure safety.

GENERAL

- All vehicles shall observe a maximum speed limit of 10 MPH, unless otherwise posted. There will be no passing of moving vehicles at job sites when narrow roads and short sight distances exist.
- Hard hat and approved eye protection are required at all times except in designated areas.
- Smoking or eating is permitted only in designated areas.
- Contractor is expected to maintain good housekeeping during the duration of work. Daily trash pick up is required. At the end of the job Contractor shall leave the job site in at least as good an appearance and condition as it was found.
- Contractor is to provide first-aid kit.
- Review with site supervisor the emergency evacuation route and telephone location. In case of emergency, notify site supervisor immediately and call the appropriate service.
- D/K Work rules also prohibit:
 - * Possession or consumption of intoxicants or illegal drugs or narcotics
 - * Violation of Federal and State safety regulation Gambling
 - * Possession of firearms
 - * Fighting, horseplay, or practical joking
 - * Sabotage or pilfering
 - * Running, except in an emergency

- All accidents (personal injury or property damage) shall be reported to the site supervisor as soon as emergency conditions no longer exist. The person involved shall make a written accident report prior to leaving the site, unless prevented by emergency conditions, e.g., injury.
- There shall be no personnel on the work site except for authorized contractor/subcontractor employees without DeMenno/Kerdoon and/or D/K Environmental management approval.
- DeMenno/Kerdoon and/or D/K Environmental representative has discussed with the contractor and his subcontractors, the nature of the potential hazards that may be encountered.

HAZARDOUS ATMOSPHERES AND HAZARDOUS ENVIRONMENTS

- Contractor shall provide his own calibrated combustible gas/oxygen analyzer or other instruments for checking areas before confined space, hot work, or other work in hazardous atmospheres or environments. Contractor is responsible for all testing and monitoring required by applicable regulations. No testing by DeMenno/Kerdoon or D/K Environmental shall be in lieu of above requirements.
- Contractor shall provide a standby during confined space work and a fire watch during hot work.
- Hot work, confined space entry, line opening procedures, scaffolding, use of heavy equipment, excavations a-rid trenching, and other planned hazardous atmospheres and hazardous environment activities shall be reviewed with site supervisor before commencing.
- Contractor personnel shall know the location of the nearest fire extinguisher, fire water line, safety shower, and eye bath.

**DeMenno/Kerdoon
D/K Environmental**

HEALTH AND SAFETY PLAN

- Any change of conditions around hot work, confined space, or other hazardous atmosphere or hazardous environment areas which could affect previous test readings or safety conditions shall invalidate all permits and approvals. Retesting or reevaluation of the area, by a designated person, is required before work can be resumed.

Contractors are expected to brief their employees and enforce these rules. DeMenno/Kerdoon and/or D/K Environmental management may stop or suspend work, at no cost to DeMenno/Kerdoon and/or D/K Environmental at any time the Contractor fails to comply with all Applicable Safety Requirements.

D/K and/or DKE
Representative Signature

Date

Contractor
Signature

Date

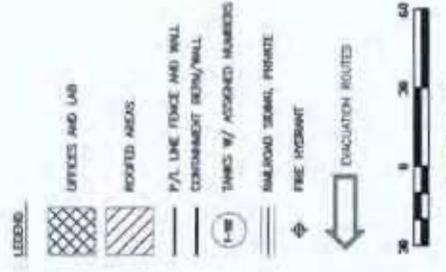
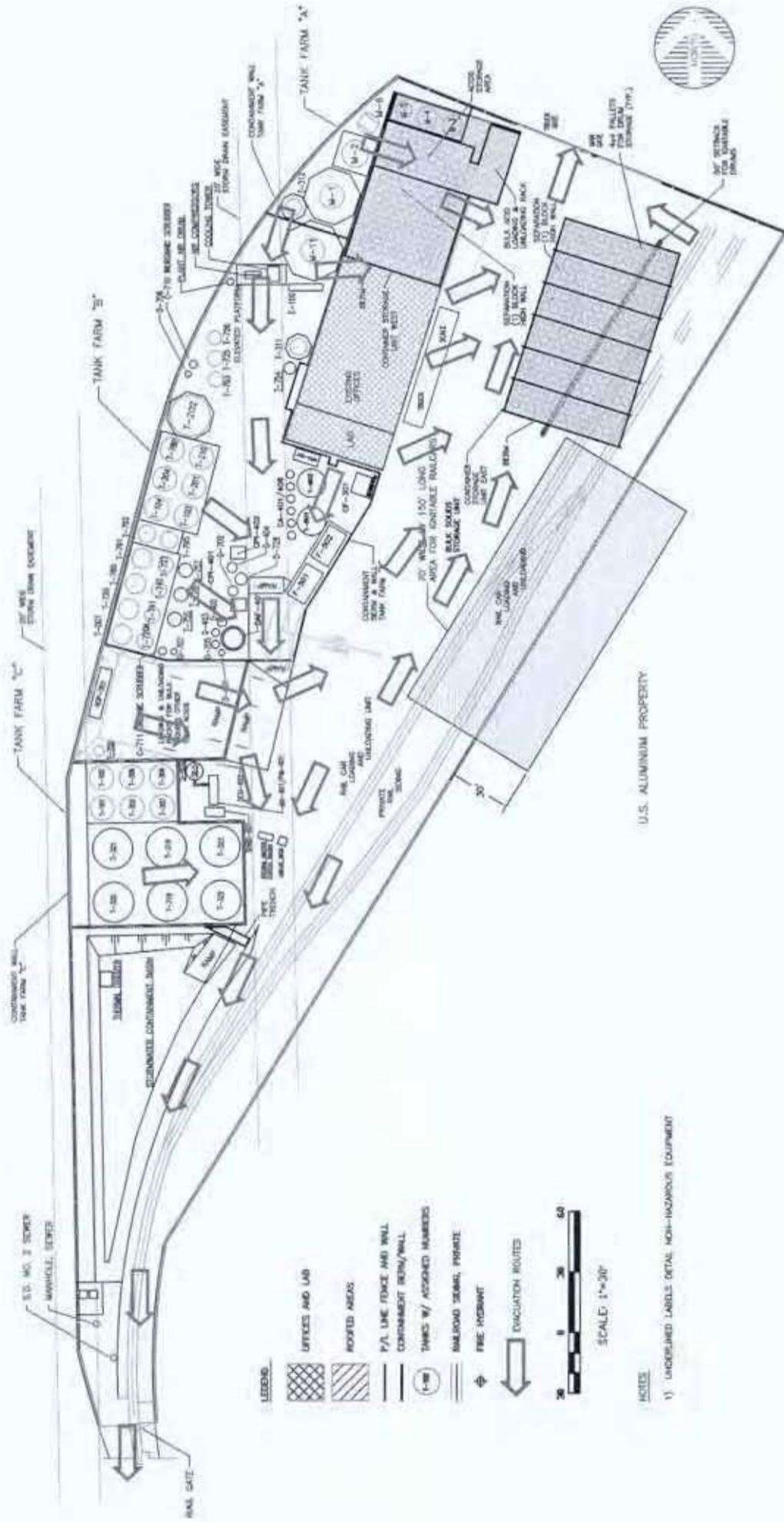
Name Printed

Name Printed

APPENDIX M

PRIMARY EVACUATION PLAN

(PLOT PLAN)



NOTES

1) UNDERLINED LABELS DENOTE NON-HAZARDOUS EQUIPMENT

REV	DATE	REVISION HISTORY	TITLE	DRAWING #
1	4/26/2004	AV	EVACUATION MAP	X-1
2				
3				
4				
5				
6				
7				
8				
9				
10				

DK DK Environmental

ALUMINUM OR ITS DRAWING IS/ARE
 CONSIDERED AS CONFIDENTIAL AND
 PRIVILEGED INFORMATION

PAGE 1 REV. A

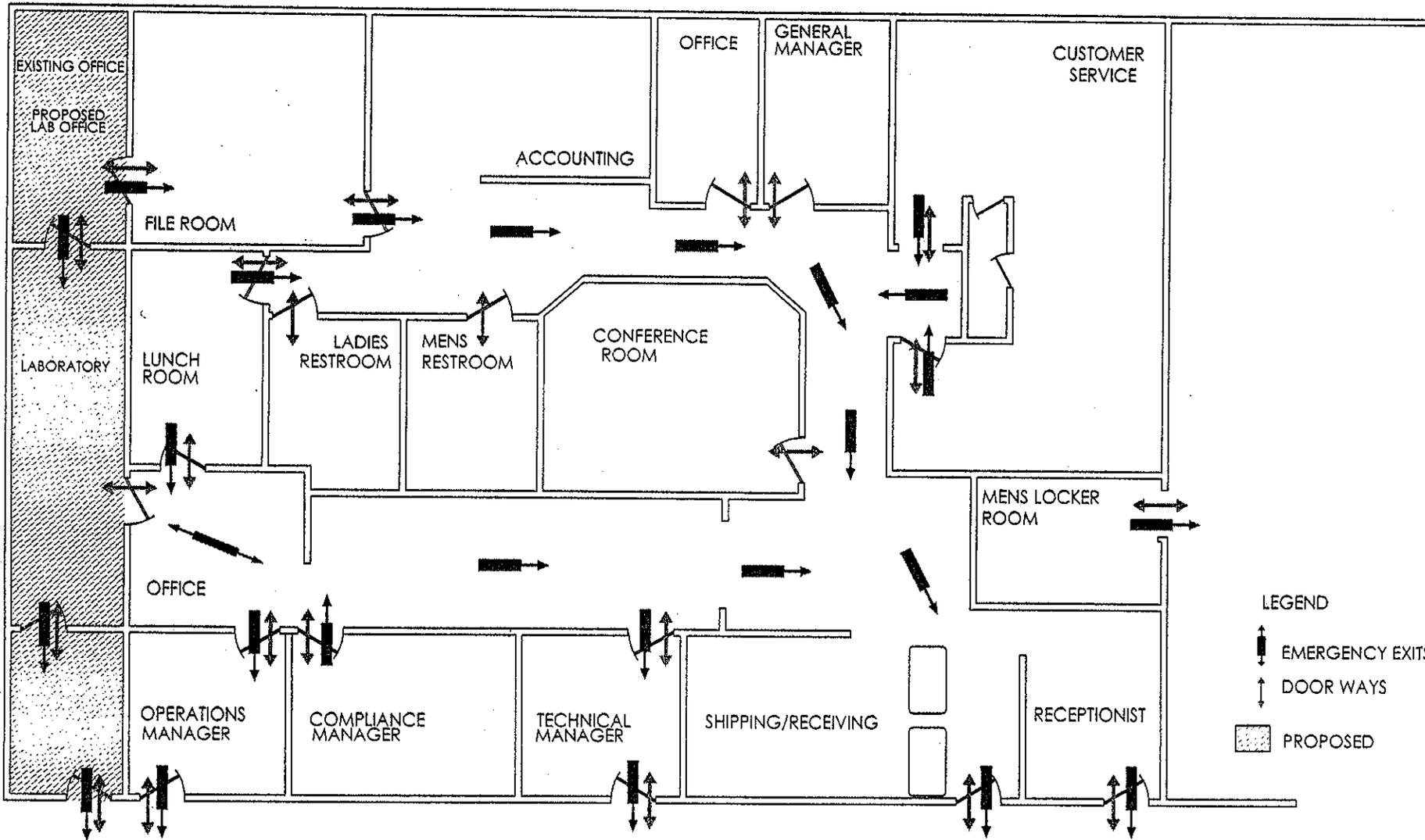
DATE 4/26/2004

DRAWN BY: AV

DATE 4/26/2004

EVACUATION MAP

DRAWING # X-1



ALL INFORMATION ON THIS DRAWING IS TO BE CONSIDERED AS CONFIDENTIAL AND PRIVILEGED INFORMATION

REV	DATE	REVISION HISTORY
M/C	8/1/2002	INITIAL RELEASE

DK DK Environmental		
TITLE DK/VERNON EVACUATION AND EMERGENCY EXIT ROUTE		DRAWING # DKE-EVAC
DRAWN BY: OV	DATE 8/1/2002	PAGE 1
		REV N/C

G:\TRAIN\VERNON\DKE_EVAC_DWG