



RUDTUK

**Safety Coordinator:
A Safety Committee Member**

Health Safety and Environmental Manual

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RUDTUK

Occupational Safety and Health Manual

111 Congress Ave, Suite #900
Austin, TX 78701

Office Phone: (512) 501-5452



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HSE MANUAL REVISION HISTORY

REVISION HISTORY TABLE

The following table contains the revision history of this document.

Change	Version	Date	Modified By	Authorized By
Initial Issue	1.0	04/22/2019	RUDTUK	Danny Harrell
Contact Information	1.1	1/15/2021	RUDTUK	HSE Team Lead

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Responsibility Designation

Designation	Employee
HSE Manager	hse@rigup.com
HSE Coordinator	As Designated Per Worksite

Safety Policies and Procedures Acknowledgement Form

I have received The Company safety guidelines and acknowledge that it is my responsibility to read, understand and comply with all safety policies, procedures and practices.

I acknowledge that I am responsible for knowing the safety risks in my work area, following safe work practices in performing my job, reporting any unsafe work practices and assisting other in creating a safe work environment.

I further understand that failure to comply with these guidelines and safe work practices may result in corrective action, up to and including termination.

Employee Signature

Employee Name (printed)

Employee Signature

Policy Statement and Code of Safe Practices

POLICY STATEMENT

The Occupational Safety and Health Act of 1970 clearly states our common goal of safe and healthful working conditions to be the first consideration in operating this business.

Safety and health in our business must be part of every operation. Without questions, it is every employee's responsibility at all levels.

It is intent of this company to comply with all laws. To do this, we must constantly be aware of conditions in all work areas that can produce injuries. No employee is required to work at a job he/she knows is not safe or healthful. Your cooperation in detecting hazards and, in turn, controlling them, is a condition of your employment. Inform your supervisor immediately of any situation beyond your ability or authority to correct.

The personal safety and health of each employee of this company is of primary importance. Prevention of occupationally induced injuries and illnesses is of such consequence that it will be given precedence over operating productivity, whenever necessary. To the greatest degree possible, management will provide all mechanical and physical activities required for personal safety and health, in keeping with the highest standards.

We will maintain a safety and health program conforming to the best practices of organizations of this type. To be successful, such a program must embody proper attitudes toward injury and illness prevention on the part of supervisors and employees. It also requires cooperation in all safety and health matters, not only between supervisor and employee, but also between each employee and his/her co-workers. Only through such a cooperative effort can a safety program in the best interest of all be established and preserved.

Our objective is a safety and health program that will reduce the number of injuries and illnesses to an absolute minimum, not merely in keeping with, but surpassing, the best experience of operations similar to ours. Our goal is zero accidents and injuries.

Our safety and health program will include:

- Providing mechanical and physical safeguards to the maximum extent possible.
- Conducting safety and health inspections to find, eliminate or control safety and health hazards as well as unsafe working conditions and practices, and to comply fully with the safety and health standards for every job.
- Training all employees in good safety and health practices.
- Providing necessary personal protective equipment, and instructions for use and care.
- Developing and enforcing safety and health rules and requiring that employees cooperate with these rules as a condition of employment.

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- Investigating, promptly and thoroughly, every accident to find out what caused it and correct the problem so it will not happen again.
- Setting up a system of recognition and awards for outstanding safety service or performance."
- We recognize that the responsibilities for safety and health are shared:
- The employer accepts the responsibilities for leadership of the safety and health program, for its effectiveness and improvement, and for providing the safeguards required to ensure safe conditions.

CODE OF SAFE PRACTICES

All persons shall follow these safe practice rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the foreman or superintendent.

- Foremen shall insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work and shall take such action as is necessary to obtain observance.
- All employees shall be given frequent accident prevention instructions. Instructions shall be given at least every 10 working days.
- Anyone known to be under the influence of drugs or intoxicating substances that impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition.
- Horseplay, scuffling, and other acts that tend to have an adverse influence on the safety or well-being of the employees shall be prohibited.
- Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
- No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury.
- Employees shall not enter manholes, underground vaults, chambers, tanks, silos, or other similar places that receive little ventilation, unless it has been determined that is safe to enter.
- Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted and shall report deficiencies promptly to the foreman or superintendent.
- Crowding or pushing when boarding or leaving any vehicle or other conveyance shall be prohibited.
- Workers shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their foreman.
- All injuries shall be reported promptly to the foreman or superintendent so that arrangements can be made for medical or first aid treatment.
- When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used.

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- Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.
- Materials, tools, or other objects shall not be thrown from buildings or structures until proper precautions are taken to protect others from the falling objects

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Abrasive Blasting

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding Abrasive Blasting while employed with **RUDTUK**; hereafter will be referred to as "The Company."

RESPONSIBILITIES

Safety Officer

- Ensure that all personnel exposed to sandblasting are trained in the awareness and avoidance of unsafe work practices.
- All employees subject to silica exposure will be provided information about adverse health effects, work practices, HazCom, and use and care of personal protective equipment.

Personnel

- Follow all aspects of this safety policy

POLICY

GENERAL

- Ensure proper footing before pressing the trigger as the back pressure from the nozzle can cause you to lose your balance.
- Check all fittings daily to make sure the sandblast nozzle is tight.
- Check the actuator on the dead man switch for proper length.
- Do not defeat the dead man feature of the remote shutoff switch as this is cause for disciplinary action up to and including termination.
- Always point the nozzle only at the work surface or the ground.
- Do not operate the sandblast pot unless the remote-control shutoff switch is operating properly.
- Always wear eye protection in the immediate area.
- Do not make repairs on the equipment unless you are qualified and can ensure the pressure has been shut off.
- Whenever hazardous substances such as dusts, fumes, mists, vapors, or gases exist or are produced in the course of construction work, their concentrations shall not exceed the limits specified in the "Threshold Limit Values of Airborne Contaminants - 1970" of the American Conference of Governmental Industrial Hygienists.

- Abrasives and surface coatings on the materials blasted are shattered and pulverized during blasting operations. The dust formed will contain particles of respirable size. The composition and toxicity of the dust from these sources will be considered in making an evaluation of the potential health hazards.

OPERATIONS

- Abrasive blasting operation in an urban/industrial setting should be performed indoors, in an approved blasting enclosure.
- If the abrasive blasting operation is outdoors, where people, property, or the environment may be affected, The Company or individual performing the sandblasting must tarp the area surrounding the object being blasted to minimize escape of fugitive dust emissions.
- The individual performing the sandblasting shall ensure all practical measures be taken to prevent fugitive dust emissions from entering the ventilating/heating systems of buildings, vehicles, property, etc. in the surrounding vicinity.
- An outdoor blasting area shall be kept free of used grit to prevent windblown particles.
- Sandblasting of outdoor buildings, bricks, facades, etc. must be covered around the working area, to minimize dust emissions as much as possible.
- Avoid sandblasting on windy days where people are directly downwind.
- Prevent paint chips, abrasive blast material, and grit waste from coming into contact with storm water runoff from the blasting location.
- Automatically operating dead man type remote control shutoff switches (same for pot tenders).
- Do not disable the dead man feature or the remote-control shutoff switch.
- Anti-Whip cables must be used at hose connections. Sandblast pots must be properly grounded, during abrasive blasting and filling operations.
- Compressed air shall not be used for cleaning purposes except where the pressure is reduced to less than 30 psi
- The blast nozzle shall be bonded and grounded to prevent the buildup of static charges.
- A respiratory protection program shall be established whenever it is necessary to use including worksite-specific procedures and when elements that require a respirator are in use.
- Abrasive blasting respirators shall be worn by all abrasive blasting operators under certain conditions.

PERSONAL PROTECTIVE EQUIPMENT

- Fully operational air-fed blast hood must have properly functioning regulator, gauge, cape and inner collar.
- Equipment for protection of the eyes and face shall be supplied to the operator when the respirator design does not provide such protection.

- There shall be no leaks or holes in the apparatus. Check for the proper inner and outer shields.
- A dust mask is required under the blast hood.
- Use proper inner and outer shields that are in good operational condition.
- Long sleeves, long legged pants and heavy leather gloves are required.
- Other employees may be required to wear air fed blast hoods, air fed respirators, goggles, dust masks and ear plugs depending on their proximity to the sandblasting operation.
- Equipment for protection of the eyes and face shall be supplied to any other personnel working in the vicinity of abrasive blasting operations.
- Air for abrasive-blasting respirators must be free of harmful quantities of dusts, mists, or noxious gases.
- The blast cleaning nozzles shall be equipped with an operating valve. This valve must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.

SILICOSIS AWARENESS

Silicosis is characterized by shortness of breath, fever, and bluish skin. It could be diagnosed as pulmonary edema (fluid in lungs), pneumonia or tuberculosis. Silica dust causes severe fungal infections to develop within a few weeks or years of inhalation. This condition could be fatal.

The three types of silicosis are:

Chronic – 10 years' exposure to low concentrations.

Accelerated – Exposure to high concentrations and develops 5-10 years after initial exposure.

Acute – Exposure to extremely high concentration and symptoms develop within a few weeks to a few years.

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Access to Employee Medical Records

PURPOSE

The purpose of this safety policy and procedure is to establish the guidelines and procedures through which employees will be able to obtain and gain access to **RUDTUK**; hereafter referred to as "The Company," maintained exposure and medical records. These exposure and medical records are those resulting from employment related exposures, injuries, and/or illnesses.

Employees may be exposed to toxic substances and harmful physical agents to an extent that may severely impair their health. Workers must be informed about the toxic exposures they face and their potential health effects. This safety policy and procedure provides guidelines for employees to obtain their exposure and medical records. It includes provisions on training, retention requirements for employee exposure and medical records, and response time to employee requests for exposure and medical records. Additionally, guidelines are presented on physician review of employee medical records, OSHA access to medical records, and information that must be shared with new employees.

RESPONSIBILITIES

It is the general responsibility of The Company to ensure that each employee has access to all exposure and medical records pertaining to their present or past employment with The Company. This chapter provides definitions, establishes general provisions, and identifies responsibilities regarding access to employee exposure and medical records.

Managers/Unit Heads

Managers/Unit Heads are responsible for:

- Maintaining employees' exposure and medical records
- Ensuring compliance with this safety policy and procedure
- Providing employees with copies of their exposure and medical records when properly requested
- Ensure the confidentiality of employees' medical records.

Supervisors

Supervisors will be responsible for educating and training employees about their rights under this safety policy and procedure.

Employees

Exposure and medical records may be kept in an employee's personnel files, in a physician's office, or contained within claim files such as "Workers' Compensation."

Safety Department

Safety and Loss Control will provide:

- Prompt assistance to managers/unit heads or others on any matter concerning this safety policy and procedure
- Assist in developing or securing required training for the effective implementation of this safety policy and procedure
- Provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure.

POLICY

The Company will provide all exposure and medical records when properly requested as outlined in this safety policy and procedure.

The Company will ensure that those employees who request their exposure and medical records are provided with confidential, fair, and equal treatment.

ACCESS TO MEDICAL RECORDS

Whenever an employee or a designated representative of an employee requests access to exposure and/or medical records, The Company will provide these documents within 15 working days. If records cannot be provided within this time period, the employee or representative must be informed and given a date on which the records will be provided along with a reason for the delay. These records will be provided to the employee or representative at no cost for reproduction or for the document search itself.

Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be use under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), personal identifiers must be removed before access is provided.

EMPLOYEE EXPOSURE AND MEDICAL RECORDS

Upon request, The Company must provide the employee or employee's designated representative access to employee exposure records. If no records exist, the employer must provide records of other employees with job duties similar to those of the employee. Access to exposure records does not require the written consent of the other employees.

In addition, these exposure records must reasonably indicate the identity, amount, and nature of the toxic substances or harmful physical agents to which the employee has been exposed. The Company also must provide employees and their designated representatives' access to employee medical records. Access to the medical records of another employee may be provided only with

the written consent of that employee. A request for medical records can be made by using the form (or one substantially similar) shown in this chapter.

The Company is responsible for maintaining employee medical records for the duration of employment plus 30 years. This recordkeeping does not include health insurance claims, first aid records (not including medical histories) of one-time treatment, and medical records of employees who have worked less than a year for The Company. Employee exposure records and data analysis shall be maintained for the duration of employment plus 30 years. It is the responsibility of the employee to initiate any request for access to his or her medical records as outlined in this safety policy and procedure.

If, for any reason, The Company shall cease to do business, The Company shall transfer all records subject to this section to the successor employer. If, The Company ceases to do business and there is no successor employer to receive and maintain the records, and The Company intends to dispose of any records required to be preserved for at least thirty (30) years, the employer shall notify affected current employees of their rights of access to records at least three (3) months prior to the cessation of The Company business.

ENVIRONMENTAL AND BIOLOGICAL MONITORING

In an effort to maintain accurate records of exposure, The Company shall set in place environmental (workplace) monitoring and measuring of all toxic substances or harmful physical agent, including personal, area, grab, wipe or other form of sampling. As well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained.

Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs.

REPRESENTATION BY A PHYSICIAN

The Company may request that a physician be appointed to review medical records with the employee or employee's designated representative to ensure records are reviewed and properly interpreted. The physician may deny the employee access to records if the physician detects a situation which may be detrimental to the health of the employee such as the identification of terminal illness or a psychiatric condition. In such cases, the employee's designated representative may request the records even if it is known that the representative may disclose the information to the employee.

Upon receiving a written request from OSHA, The Company will supply OSHA with:

- Any exposure or medical records for analysis.
- A copy of this request must be posted in a conspicuous place for at least 15 working days.
- Access to records shall be provided within a reasonable time, place and manner.

If access to records cannot reasonably be provided within fifteen (15) working days, The Company shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

NEW EMPLOYEE NOTIFICATION

Upon a person first entering into employment, at least annually thereafter, information of the existence, location, and availability of the person responsible for maintaining and providing access to records. Individual employee's rights of access to these records must be given to all current employees.

New Company employees will be informed of the following information:

- The existence, location, and availability of any records covered by this safety policy and procedure.
- The person responsible for maintaining and providing access to these records.
- Employee's rights under this safety policy and procedure.

DEFINITIONS

Access: The right and opportunity to examine, copy, or use any or all exposure and medical records.

Designated Representative: Any individual or organization to who an employee gives written authorization to exercise a right of access to exposure or medical records.

Employee: An individual who is employed by The Company and who is being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. In a case where the employee is deceased, the employee's legal representative may directly exercise all of the employee's rights under this policy.

Employee Exposure Record: A record containing information on the type of environment or hazards present in the workplace.

Employee Medical Record: A record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel or technician.

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Exposure: A condition that occurs when an employee is subjected to toxic or hazardous environments as a result of his or her job duties.

Health Professional: A physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist providing medical care or other occupational health services to exposed employees.

Record: Any item, collection, or grouping of information regardless of the form or process by which it is maintained.

Toxic Substance: Any chemical substance, biological agent (bacteria, virus, etc.), or physical stress (noise, heat, cold, vibration, etc.) to which employees could have been exposed as a result of performing their job function.

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Employee Request for Access to Medical Records

I, _____, hereby request access to any and all employment-related medical records, maintained on my behalf, by **RUDTUK**. This request, unless specifically noted below, includes all employment-related medical records maintained by **RUDTUK** and/or any private health care provider for which **RUDTUK** has knowledge. I acknowledge that this request pertains only to access of employment related medical records as detailed in **RUDTUK 's** Safety Policy and Procedures.

Specific Records Being Requested

_____/_____/_____-_____-_____
Employee Signature Date Social Security Number

DESIGNATED REPRESENTATIVE CERTIFICATION

I, _____, certify that I am the designated representative for the above-named employee and that he/she has authorized me to obtain the medical records as indicated above. Please forward these records to my attention at the address below.

Name Employee Signature

Address Representative Signature

_____/_____/_____
City State Zip Code Date

SUBMIT COMPLETED FORM TO YOUR MANAGER OR UNIT HEAD

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Asbestos Awareness

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding operation and maintenance of asbestos containing materials for **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Management

- Ensure all Asbestos Containing Material is identified and labeled
- Ensure training is effective for authorized employees
- Conduct medical surveillance of affected employees
- Establish engineering controls for all work with asbestos containing material
- Provide adequate and proper equipment and personal protective gear
- Ensure proper disposal of all asbestos containing material

Employees

- Qualified employees must follow the exact procedures for repair or removal of asbestos containing material, including proper use of containment equipment, clean up equipment and personal protective gear.
- Unqualified employees are to stay clear of all asbestos work areas and report any damaged asbestos containing material to their supervisor

POLICY

It is the policy of The Company that only qualified employees shall be involved in any asbestos repairs, maintenance or removal. All unqualified employees shall be protected from exposure to asbestos fibers by isolating and controlling access to all affected areas during asbestos work. All tasks involving the disturbance of asbestos containing material will be conducted only after appropriate work controls have been identified and implemented. A qualified supervisor shall be available at asbestos controlled work sites during all activities. Proper personal protective equipment, vacuums and HEPA filters shall be used and properly maintained. If outside contractors are used, The Company shall ensure all contractor employees have been properly trained and have been issued proper equipment and protective gear.

HAZARDS

Asbestos is a common, naturally occurring group of fibrous minerals. Asbestos fibers have been used in a variety of building materials; however, The Company takes an aggressive effort to use non-asbestos containing materials in new construction and renovation projects. Generally, most asbestos is found in pipe insulation, doors, textured paints and plasters, structural fireproofing, and floor tiles. Friable asbestos (material that contains more than 0.1% asbestos by weight and can be crumbled by hand) is a potential hazard because it can release fibers into the air if damaged.

Long term exposure to airborne asbestos is necessary for chronic lung disease. Significant and long-term exposure to asbestos from activities that directly disturb asbestos-containing materials (such as asbestos mining) can lead to a variety of respiratory diseases, including asbestosis and mesothelioma (cancer of the lung lining). Asbestosis is a non-malignant, irreversible disease resulting in fibrosis of the lung. Asbestos-related cancers tend also to result from substantial long-term exposure; however, mesothelioma may result from much smaller exposures to asbestos.

Asbestos materials are used in the manufacture of:

- Heat-resistant clothing,
- Automotive brake and clutch linings
- Insulation
- Soundproofing
- Floor tiles,
- Roofing felts
- Ceiling tiles
- Asbestos-cement pipe and sheet
- Fire-resistant drywall
- Pipe and boiler insulation materials
- Pipeline wrap
- Sprayed-on materials located on beams, in crawlspaces, and between walls.

Exposure to asbestos has been shown to cause lung cancer, asbestosis, mesothelioma, and cancer of the stomach and colon.

HAZARD CONTROL

Engineering Controls

Engineering controls include the use of enclosures such as:

- Monitoring equipment
- Glove bags
- Tenting
- Negative pressure work areas
- HEPA filters
- Controlled vacuums
- Water misters and other equipment to ensure containment and clean-up of asbestos work areas.

Administrative Controls

All qualified workers shall be issued proper personal protective equipment, such as respirators, disposable coveralls, gloves, etc. Written procedures and management authorizations are required for all work involving asbestos containing material

Training Controls

All qualified employees, supervisors and managers shall receive the proper level of training, as outlined in this program. Asbestos awareness training is required for employees whose work activities may contact asbestos containing material (ACM) or presumed asbestos containing material (PACM) but do not disturb the ACM or PACM during their work activities. The training will be documented and kept on file.

Asbestos Work Categories –

Signs and labels shall identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that asbestos containing material (ACM) and/or presumed asbestos containing material (PACM) will not be disturbed.

Category 1 work includes the installation or removal of non-friable asbestos in which the asbestos fiber is locked in a binder such as cement, vinyl or asphalt which holds the material together. If employees working immediately adjacent to a Class I asbestos jobs are exposed to asbestos due to the inadequate containment of such job, their employer shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.

Category 2 work involves work with friable asbestos that is of short duration in situations which create low levels of airborne asbestos. Example of category 2 work are enclosure of friable asbestos, application of tape or sealant to asbestos containing pipe insulation and minor removal of friable asbestos and minor installation, maintenance or repair work above false ceilings where sprayed asbestos fireproofing is present on beams.

Category 3 work involves possible exposure to friable asbestos over long periods of time or work that generates high levels of asbestos. Included in category 3 work are removal projects where relatively large amounts of asbestos are removed from a building including removal of friable asbestos from structural material, cleaning or removal of heating or air handling equipment that has been insulated with asbestos. Also included in category 3 work are cutting or grinding of asbestos-containing materials using power tools.

General Rules

- When in doubt, treat all material as containing asbestos and comply with all applicable rules and regulations and protective measures.
- All Asbestos Containing Material (ACM) will be handled by certified and licensed asbestos abatement personnel. The friability of the ACM will dictate the type of removal/maintenance required.
- Employees who are uncertified and unlicensed will not handle any ACM >1%. This will include encapsulation projects, renovations, removals and/or demolitions of any type of structure. This will prevent the potential for accidental exposure from the mishandling of any ACM.
- When an uncertified, unlicensed employee question whether they may be handling suspect ACM, the employee will immediately contact their supervisor. The employee shall not resume working at the site until the area has been checked to verify the material is not ACM.
- Uncertified, unlicensed employees will not cross over a barrier/containment area where asbestos projects are in progress.
- Any employee who discovers ACM or suspect ACM in damaged or poor condition should report it to their supervisor, so the identified material is repaired.

Medical Examinations

Employees assigned to asbestos removal will be given medical examinations at Company expense in compliance with [29 CFR 1926.1101 and 40 CFR 763 - Subpart G](#).

- Within 30 days of first employment or assignment to a job exposing the employee to asbestos containing material.
- Annually.
- Within 30 days of termination of employment.
- Medical examination for employees assigned to asbestos removal will include:
- Medical and work history with special emphasis directed to symptoms of the respiratory system, cardiovascular system and digestive tract.
- Medical questionnaire contained in 29 CFR 1926.1101 [Appendix D](#).
- A physical examination including a chest roentgenogram and pulmonary function test that includes measurement of the employee's forced vital capacity and expiratory volume.

- No employee shall be assigned to tasks requiring the use of respirators if an examining physician determines the employee will be unable to function normally while using it or that the employee might otherwise be impaired.
- Records of all physical examinations performed for asbestos work-related activities will be maintained permanently by The Company.

Asbestos Inventory

The Company has conducted surveys and prepared a written inventory of the type and locations of asbestos-containing material to:

- Allow for periodic condition inspections
- Allow for maintenance and repair of damaged asbestos
- For each building the inventory contains the following information:
- Type of asbestos-containing material (sprayed fireproofing, texture coating, or thermal insulation);
- The location of the material;
- When it has been sampled, the type and percentage of asbestos present.
- Also included in the survey information is sampling results showing the absence of asbestos in material which might be mistaken for an asbestos-containing material.

Asbestos Identification

Asbestos identification system is used to alert people to the presence of asbestos. Asbestos is identified by tags, stickers, pipe labels, signs and other high visibility means. Where feasible, stickers indicate the presence of asbestos in thermal insulation, in asbestos board and tiles and in other locations. Warnings may also be placed near the entrances of rooms -particularly mechanical rooms where unusually large amounts of asbestos may be present.

DEFINITIONS

Asbestos

Asbestos is a generic term describing a family of naturally occurring fibrous silicate minerals. As a group, the minerals are noncombustible, do not conduct heat or electricity and are resistant to many chemicals. Although there are several other varieties that have been used commercially, the most common asbestos mineral types likely to be encountered in buildings are chrysotile (white asbestos), amosite (brown asbestos), and crocidolite (blue asbestos). Among these, white asbestos is by far the most common asbestos mineral present in buildings.

Friable Asbestos

Friable asbestos material means finely divided asbestos or asbestos-containing material or any asbestos-containing material that can be crumbled, pulverized or powdered by hand pressure. Individual fibers in friable asbestos-containing material can potentially become airborne and can then present a health hazard.

Three types of friable material commonly used in buildings are:

- sprayed fibrous fireproofing;
- decorative or acoustic texture coatings;
- thermal insulation.

Non-friable Asbestos

Non-friable asbestos includes a range of products in which asbestos fiber is effectively bound in a solid matrix from which asbestos fiber cannot normally escape. Non-friable asbestos includes a variety of products including asbestos cement tiles and boards and asbestos reinforced vinyl floor tiles. Cutting, braking, sanding, drilling of similar activities can release asbestos fiber from even non-friable asbestos materials.

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Assured Equipment Grounding Conductor - GFCI

PURPOSE

The purpose of this document is to outline safety requirements surrounding the use and exposure to electricity, and to eliminate all injuries resulting from possible malfunctions, improper grounding and defective electrical tools for **RUDTUK**; hereafter referred to as "The Company." This policy applies to all sites, personnel and contractors; this policy must be followed at all times.

RESPONSIBILITIES

Supervisors shall be responsible to implement the assured equipment grounding conductor program and shall be designated as competent persons for the program. One or more competent persons must be designated as set forth in [CFR 1926.404\(b\) \(11\) \(iii\)](#) and [Cal/OSHA T8 CCR 2405.4](#) to implement the program.

Employees are responsible for abiding by the following policy and requirements of this program. In addition, personnel and employees shall be held responsible to perform regular visual inspections and to remove defective equipment from service. All personnel shall notify a supervisor of defective equipment as soon as reasonably possible.

POLICY

It is the policy of The Company to establish and implement an assured equipment grounding conductor program on all job sites covering all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use by personnel. In fact, OSHA requires that employees shall use either ground fault circuit interrupters (GFCI) or assured equipment grounding conductor program to protect personnel from electrical shock while working.

A copy of this policy shall be placed at each jobsite for inspection and copy by OSHA officials and any affected employee/personnel.

The Company shall use GFCI's in lieu of an assured grounding program as afforded by [CFR 1926.400 \(h\)](#).

GROUND FAULT CIRCUIT INTERRUPTERS

Ground fault circuit interrupters (GFCI's) are not required for 120 volts, single phase, or 15- and 20- ampere receptacles outlets where all of the requirements of this procedure are implemented at worksites as part of the permanent wing of the building or structure. These are in use by employees, shall have approved GFCI's for personal protection.

Supervisors are designated to implement the assured equipment grounding conductor program: [1926:32](#) (f) which defines competent persons as one who is capable of identifying existing and predictable hazards in the

Surrounding area or working conditions which are unsanitary, hazardous or dangerous to employees, and who is authorized to take prompt corrective measures to eliminate them.

Equipment found damaged or defective may not be used until repaired.

Supervisors shall be responsible and accountable for the following:

- Each cord set, attachment cap, plug and receptacle of cord set, and any equipment connected by cord and plug except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins, or insulation damage, and for indication for possible internal damage.
- Tests on all cord and plug connected equipment, receptacles which are not a part of the permanent building or structure wiring, and all cord set must be repaired to be ground.
- Tests shall be documented on the log for the assured equipment grounding conductor program and shall be on all work-sites for inspection by OSHA officials and/or any affected employee.

The equipment grounding conductor shall be connected to its proper terminal:

- Before each use.
- Before equipment is returned to service following any repairs.
- Before equipment is used such as when a cord has been run over.
- At intervals not to exceed 3 months,
- Cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.

Tests performed as required by this program shall be recorded as to the identity of each receptacle, cord set, and cord and plug connected equipment that passed the test and shall indicate the last date tested or interval for which is was tested. This record shall be kept by means of logs, color coding, or other effective means and shall be maintained until replaced by a more current record. These records shall be made available at the job site for inspection by the Assistant Secretary and any affected employees.

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Equipment that does not meet the prescribed test shall not be put into service. In this case, the following shall occur:

- All equipment grounding conductors shall be tested for continuity and shall be electrically continuous
- Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding shall be connected to its terminal.

In accordance with OSHA standard [1926.21](#), supervisors shall attend training sessions as The Company may deem necessary.

Month or Quarter	Color coding scheme	Numeric coding system
January	White	1
February	White/Yellow	2
March	White/Blue	2
April	Green	4
May	Green/Yellow	8
June	Green/Blue	6
July	Red	7
August	Red/Yellow	8
September	Red/Blue	9
October	Green	10
November	Orange//Yellow	11
December	Orange/Blue	12
Repair or Incident	BROWN	0

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**Assured Equipment Grounding
Conductor - GFCI - US**

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Behavior Based Safety

PURPOSE

RUDTUK; hereafter referred to as "The Company," have developed a Behavior Based Safety and Work Observation Process as a proactive approach to safety performance improvement. Behavior Based Safety and Work Observation promotes safe work practices through enhanced employee engagement, involvement and awareness.

Behavior Based Safety and Work Observation is an innovative improvement technology that focuses on identifying and reinforcing safe behaviors in the workplace. All workers, whether trades people, supervision, or management is visible, involved and empowered in the Behavior Based Safety/Work Observation Process. In a 100% safe culture, Behavior Based Safety/Work Observation techniques are employed to provide positive reinforcement to the workers promoting increased performance of safe behaviors in the future. The objective of Behavior Based Safety/Work Observations is to create a work environment in which employees encourage each other to use safe behaviors and eliminate at risk behaviors. This work process is intended to ensure that there is a formal process for The Company to observe the work practices of workers and provide leadership by ensuring interpersonal interactions occur between employee(s), senior employees and supervisors for the interest of workplace safety. The Behavior Based Safety/Work Observation Process will improve and enhance the health, safety and environment of The Company work sites. A properly implemented and managed Behavior Based Safety/Work Observation Process provides the management team an effective diagnostic tool for controlling and improving the Safety Management System.

RESPONSIBILITIES

Employees

Shall understand that 95% of workplace injuries are caused by employee at risk behaviors. All personnel shall participate in the Behavior Based Safety and Work Observation Process in the role of observation team member or as a trade's person who agrees to allow them to be observed. In addition, all employees shall:

- Communicate knowledge of perceived hazards and risks;
- Notify their supervisor if they become aware of factors or circumstances where they feel the measures taken to ensure their safety are inadequate or sub-standard;
- Utilize Behavior Based Coaching to demonstrate actively caring for fellow employees.

Supervisors

Shall ensure that all personnel are implementing and using this Behavior Based Safety process and will use work observations as a coaching tool to focus on positive feedback.

All management positions will, in addition, maintain the following actions:

- Actively participate in work observation planning;
- Utilize Behavior Based Safety and observation techniques throughout the course of daily operations and duties;
- Use positive reinforcement as a tool to encourage safe behaviors;
- Give corrective feedback for at risk behaviors in a way that is accepted by the employee observed.

ENSURE TIMELY AND APPROPRIATE IMPLEMENTATION OF NECESSARY FEEDBACK OF OBSERVED EMPLOYEES WHO DISPLAY AT RISK BEHAVIORS

POLICY

OBSERVATION

The Company, in an ongoing effort to reduce and hopefully eliminate workplace incidents and injuries, will perform observations of employee's work behavior that provide direct, measurable information on employee's work practices identifying both safe and unsafe behaviors.

Upon the conclusion of an observation, the observer shall have a discussion with the observed employee to get feedback. This conversation will consist of the following:

- Review the observation with the observed employee;
- The discussion will always begin with positive comments and will reinforce safe behaviors observed first;
- Describe and discuss unsafe behaviors observed and solicit from observed employee an explanation of his/her unsafe behavior;
 - Solicit from observed employee an explanation of his/her unsafe behavior with open-ended questions;
- Re-emphasize no consequence to observed employee.

SELECTION OF OBSERVERS

Behavior based safety/work observation observers will be selected from the ranks of personnel. Observers may be members of supervision, but the focus should be worker involvement. Members of the HSE Department should not be observers. Observers are selected on the basis of their natural leadership qualities.

TRAINING

Training on the observation process will include:

- How to conduct the observation;
- How to complete the observation form;
- What do the behaviors may mean;
- Feedback and role play (mentoring and coaching).

Employees will be informed through training, that they may be observed at any time.

DATA COLLECTION AND ANALYSES

Behavior Based Safety/Work Observations are designed to help communicate the safety responsibilities and expectations of management, supervisors and workers. They can be used to notice good work practice as well as provide opportunities to change behaviors when acquired. Observers will meet on a regular basis (monthly), with work observations conducted daily by each designated "observer." Observation checklists and reports shall be returned to the HSE director or to the observer's supervisor at the end of each work shift. Data from each work observation checklist is to be compiled into and reviewed for trends. A report measuring observed behaviors in terms of "percentage safe" can be issued weekly to each observee. Reports shall be discussed at the Safety Meetings, posted and made available at all locations to include jobsites.

Individual departments, as well as The Company as a whole, will compare these measurements and track these results by an acceptable method so that numerical and statistical comparisons can be made over time.

ACTION PLAN – CORRECTIVE ACTION PROCESS

Once trend an analysis is complete and posted, appropriate action plans shall be developed to address unsafe behaviors. This action plan will include:

- Evaluate unsafe behaviors from trend analysis and prioritize;
- Develop action plan for unsafe behaviors based on comments and feedback from data sheets;
- Designate responsible parties and timeframes within the action plan;
- Define who is responsible for action planning.

Ensure management support.

DEFINITIONS

Hazard

A situation that has the potential to harm a person, the environment or damage property.

Behavior

An action that can be observed.

Behavior Based Safety

Focuses on the use of regards, positive feedback, and recognition motivate and support safe behaviors. The methods and tools are based on more than 50 years of research. Behavior Based Safety employs only the most objective and reliable aspects of the science of behavioral psychology. It is a fact that nearly every injury that happens at work involves at-risk behaviors; therefore, Behavior Based Safety aims to address the cause of most work injuries.

At Risk Behavior

The unsafe act workers perform.

Safety Behavior

The safe and risk-free acts that workers perform.

Risk

The probability or likelihood of harm or damage occurring from exposure to a hazard, and the likely consequences of that harm or damage.

Hazard and Risk Assessment

The formal process of evaluating the probability and consequences of injury or illness arising from exposure to an identified hazard.

Control

The actions, processes, barriers or control measures available to minimize or eliminate the probability of an incident occurring from an identified risk or hazard.

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Benzene Awareness

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding exposure to Benzene for **RUDTUK**; hereafter referred to as "The Company." The primary objective of this program is to protect employees from hazards associated with benzene and to maintain safe benzene exposure levels in the workplace.

RESPONSIBILITIES

Safety Officer

- Provide adequate training in safe handling of all chemicals including Benzene
- Shall develop and implement site-specific benzene safety program(s) as needed
- Incident investigation and reporting
- Training and exposure/control records

Supervisors

- To ensure compliance with this program
- Assist Safety Officer in the implementation and enforcement of site-specific benzene safety program as needed
- Maintaining SDS records and posting as needed

Employees

- Understand and follow all aspects of this benzene program at all times
- Report spills, releases, and incidents as soon as reasonably possible
- Wear PPE as outlined in this benzene policy

POLICY

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.

Benzene is not soluble in water and it is flammable, therefore, smoking is prohibited in areas where benzene is used or stored. Benzene is toxic, colorless, has an aromatic odor, is not soluble in water and is flammable.

Benzene liquid is highly flammable, and vapors may form explosive mixtures in air. Fire extinguishers must be readily available in areas where benzene is used or stored.

Some examples of where employees may be exposed to Benzene during their job functions include, but are not limited to:

- Petroleum refining sites
- Tank gauging (tanks at producing, pipeline and refining operations)
- Field maintenance

Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, nylon, and synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke.

POSSIBLE EXPOSURE LOCATIONS

- Petroleum refining sites;
- Tank gauging (tanks at producing, pipeline operations; and
- Field maintenance positions and locations

Approximately 240,000 people in the United States are exposed to benzene in the workplace. A 2006 study suggests that benzene may be present in many commonly used petrochemical products, even though this very toxic chemical may not be listed on a product's Safety Data Sheet (SDS).

Examples of such products that may contain benzene include:

- Commercial hexanes
- Rubber solvent
- Petroleum benzene
- Stoddard solvent
- Spot remover
- Naphtha solvents
- 140 Flash aliphatic solvent
- Alkyd paint
- Toluene
- Xylene
- Ethyl benzene
- Mineral spirits

BENZENE EXPOSURE HEALTH EFFECTS

People who breathe in high levels of benzene may develop the following signs and symptoms within minutes to several hours.

Short Term Effects:

- Drowsiness
- Dizziness
- Rapid or irregular heartbeat
- Headaches
- Tremors

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- Confusion
- Unconsciousness
- Death (at very high levels)
- Irritation of the eyes, nose and skin
- Breathlessness
- Irritability
- Euphoria
- Headache
- Dizziness
- Nausea

Other short-term effects of overexposure may include:

- Irritation of eyes, nose, and skin
- Breathlessness
- Irritability
- Euphoria
- Headache
- Dizziness
- Nausea

Long Term Effects May Include:

- Blood disorders such as leukemia; and
- Anemia

Eating Foods or Drinking Beverages Containing High Levels of Benzene Can Cause the Following Symptoms Within Minutes to Several Hours:

- Vomiting
- Irritation of the stomach
- Dizziness
- Sleepiness
- Convulsions
- Rapid or irregular heartbeat
- Death (at very high levels)

If a person vomits because of swallowing foods or beverages containing benzene, the vomit could be sucked into the lungs and cause breathing problems and coughing.

Direct exposure of the eyes, skin, or lungs to benzene can cause tissue injury and irritation.

Showing these signs and symptoms does not necessarily mean that a person has been exposed to benzene.

EMPLOYEE EXPOSURE ASSESSMENT

- To assess airborne exposure to benzene, personal air samples must be collected representative of each potentially exposed work group in each work area.
- If eight-hour sample results are greater than the action level, but less than the PEL, annual monitoring is conducted.
- If eight-hour sample results are greater than the PEL and fifteen-minute sample results are greater than the STEL, monitoring is conducted every six months.
- Monitoring may be discontinued if two consecutive sample results collected at least seven days apart are less than the action level.
- Employees must be notified within fifteen working days if the personal sample results exceed the exposure limits. The notification must also include corrective actions to minimize employee exposure.
- Air monitoring will be repeated in an area each time there is a change in equipment, processes or controls which may result in additional exposure to benzene.

EXPOSURE CONTROL

PPE

Contact with the eyes or skin with liquids containing benzene will be prevented by the use of protective garments and equipment which are impervious to benzene.

Respirators

If employee exposures are found to exceed the PEL or STEL, respirators will be provided until feasible engineering or administrative controls can be implemented.

Administrative Controls

If engineering controls cannot be implemented, alteration of work practices will be used to reduce exposures to benzene. This may include limiting the amount of time employees spend working in high exposure areas by rotating personnel

Engineering Controls

Chemical fume hoods and local exhaust ventilation will be used to reduce exposures to benzene. Local exhaust is used to capture and exhaust benzene vapors from the worksite, preventing the accumulation of high exposure levels in the employee's breathing zone

Substitution

Substitution of a less hazardous chemical or process will be used to reduce or eliminate benzene exposures whenever possible.

Fire Extinguishers

Since benzene is highly flammable and vapors may form explosive mixtures in air, fire extinguishers must be readily available in areas where benzene is used or stored.

Employees should be aware of clients' contingency plans and provisions. Employees must be informed where benzene is used in the host facility and aware of additional plan safety rules.

Employees should be aware of clients' contingency plans and provisions. Employees must be informed where benzene is used in the host facility and aware of additional plant safety rules.

PERSONAL PROTECTIVE EQUIPMENT

All employees shall be issued the following PPE before initial assignment as necessary to replace defective PPE:

- Gloves
- Sleeves
- Aprons
- Eye and face protection
- Respirator

WHAT TO DO IF EXPOSED

First, if the benzene was released into the air, get fresh air by leaving the area where the benzene was released. Moving to an area with fresh air is a good way to reduce the possibility of death from exposure to benzene in the air.

- If the benzene release was outside, move away from the area where the benzene was released.
- If the benzene release was indoors, get out of the building.

If you are near a release of benzene, emergency coordinators may tell you to either evacuate the area or to "shelter in place" inside a building to avoid being exposed to the chemical. For more information on evacuation during a chemical emergency, see "[Facts About Evacuation](#)." On the CDC.gov website.

If you think you may have been exposed to benzene, you should remove your clothing, rapidly wash your entire body with soap and water, and get medical care as quickly as possible.

REMOVING CLOTHING

- Quickly take off clothing that may have benzene on it. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head.

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- If you are helping other people remove their clothing, try to avoid touching any contaminated areas, and remove the clothing as quickly as possible.

WASHING INSTRUCTIONS

- As quickly as possible, wash any benzene from your skin with large amounts of soap and water. Washing with soap and water will help protect people from any chemicals on their bodies.
- If your eyes are burning or your vision is blurred, rinse your eyes with plain water for 10 to 15 minutes. If you wear contacts, remove them after washing your hands and put them with the contaminated clothing. Do not put the contacts back in your eyes (even if they are not disposable contacts). If you wear eyeglasses, wash them with soap and water. You can put your eyeglasses back on after you wash them.

DISPOSING OF CLOTHING

- After you have washed yourself, place your clothing inside a plastic bag. Avoid touching contaminated areas of the clothing. If you can't avoid touching contaminated areas, or you aren't sure where the contaminated areas are, wear rubber gloves or put the clothing in the bag using tongs, tool handles, sticks, or similar objects. Anything that touches the contaminated clothing should also be placed in the bag.
- Seal the bag, and then seal that bag inside another plastic bag. Disposing of your clothing in this way will help protect you and other people from any chemicals that might be on your clothes.
- When the local or state health department or emergency personnel arrive, tell them what you did with your clothes. The health department or emergency personnel will arrange for further disposal. Do not handle the plastic bags yourself.

If you think your water supply may have benzene in it, drink bottled water until you are sure your water supply is safe.

If someone has swallowed benzene, do not try to make them vomit or give them fluids to drink. Also, if you are sure the person has swallowed benzene, do not attempt CPR. Performing CPR on someone who has swallowed benzene may cause them to vomit. The vomit could be sucked into their lungs and damage their lungs.

Seek medical attention right away. Dial 911 and explain what has happened.

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LABELING

Regulated Areas – access to these areas will be limited to persons trained to recognize the hazards of benzene. All entrances and access ways will be posted with signs bearing the following:

DANGER
Benzene
Flammable – No Smoking
Authorized Personnel Only
Respirator may be Required

Container Labels – if a chemical product containing benzene is transferred into a container other than the original, the labels shall comply with the requirements [of 29 CFR 1910.1200\(f\)](#) and with the following:

DANGER
Contains Benzene
Cancer Hazard

TRAINING

All employees using or exposed to Benzene must receive training on the hazards associated with Benzene. If exposure levels are above the AL in a specific work area, all personnel in that area shall be trained before initial assignment and annually on the following:

- Requirements of the OSHA Standard – [29 CFR 1910.1028](#)
- Explanation of The Company benzene safety program
- Contents of the Safety Data Sheets (SDS)
- Description of the medical surveillance program
- Description of the health hazards associated with exposure
- Signs and symptoms of exposure
- How to report any signs or symptoms that may be attributable to benzene exposure
- Safe operating procedures wherever Benzene is present
- Proper use of PPE
- Procedure for spills, releases and emergency procedures

Training Documentation

- Shall include date of training, employee name, test score, test outline.

Medical Surveillance

Employees found to have benzene exposures that exceed the benzene action level for 30 or more days per year or above the PEL and/or STEL for ten or more days per year, will be included in a medical surveillance program.

Employees exposed to benzene must receive medical attention under the following circumstances:

- Whenever an employee presents signs or symptoms associated with exposure to benzene; and/or
- Whenever an employee is involved in a spill, leak or other occurrence resulting in a possible overexposure to benzene.
- Medical removal. If The Company determines that there has been a possible overexposure, The Company will evaluate the work area to determine if further control measures are necessary.

DEFINITIONS

Regulated Area – any area where airborne concentrations of benzene exceed or can reasonably be expected to exceed the PEL.

Short Term Exposure Limit (STEL) – 5ppm averaged over any fifteen-minute period. Any exceedance of this limit also triggers all the OSHA requirements prescribed for exceedances of the PEL.

Permissible Exposure Limit (PELs) – 1 ppm, calculated as an eight-hour time – weighted average. If employees are required to provide protective equipment such as respirators, must study and install engineering controls, if feasible, establish regulated areas, and perform all other OSHA- required procedures and duties.

Action Level – is 0.5-part benzene per million parts or air (0.5 ppm), calculated as an eight-hour time weighted average. If employees are exposed at or above this concentration for more than 30 days per year, OSHA mandates that employees initiate certain required activities such as annual exposure monitoring and medical surveillance.

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Bloodborne Pathogens

PURPOSE

The purpose of this document is to outline The Bloodborne Pathogens Exposure Control Plan for **RUDTUK**; hereafter referred to as "The Company." OSHA requires that all employers that can "reasonably anticipate exposure" of employees to infectious material to prepare and implement a written exposure control plan. This policy has been adopted by The Company to ensure a safe and healthful work environment for its personnel.

RESPONSIBILITIES

The Company is committed to providing a safe and healthful work environment for all personnel. In pursuit of this objective, the following exposure control plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with [OSHA 29 CFR 1910.1030](#), "Occupational Exposure to Bloodborne Pathogens." This plan is vital to assist our organization in implementing and ensuring compliance with the OSHA standard, thereby protecting our employees.

ECP Administration

The HSE Manager shall be responsible for the implementation, maintenance, review and update of this ECP. The plan should be review at least once annually, but whenever necessary, to ensure the plan aligns with applicable regulatory standards. All personnel who have occupational exposure to blood and or other potentially infectious materials (OPIM) must comply with the procedures set forth in this policy.

The HSE Manager shall provide and maintain, on behalf of The Company, all necessary personal protective equipment (PPE), engineering controls (e.g., sharps containers), labels, and red bags as required by the standard. The HSE Manager will ensure that adequate supplies of the aforementioned equipment are available in the appropriate sizes at all times to ensure that all personnel have access if needed.

The HSE Manager shall be responsible for ensuring that all medical actions required by the standard are performed and that appropriate employee health and OSHA records are maintained and current with applicable regulations at all times. The HSE Manager will be responsible for training, documentation of training and for making the written ECP available to all personnel who perform work for The Company.

PERSONNEL EXPOSURE DETERMINATION

The Company does not employ personnel with job classifications in which some or all employees have occupational exposure to bloodborne pathogens that may result from the performance of their routine tasks. Designated employees are trained to render first aid and basic life support; executing first aid or basic life support will expose employees to bloodborne pathogens and will require them to adhere to this ECP. Medical sharps or similar equipment is not provided to, or used by, personnel who may render first aid or basic life support. A list of all first aid and basic life support trained employees in this work group shall be maintained at each work site and within each first aid kit.

UNIVERSAL PRECAUTIONS

All employees will utilize universal precautions. Under circumstances in which differential of infectious bloodborne and noninfectious bloodborne body fluids is difficult or impossible, all body fluids will be considered potentially infectious.

EXPOSURE CONTROL PLAN

Personnel covered by the bloodborne pathogens standards receive an explanation of this ECP during their initial training session as well as reviewed annual refresher training. Access to a copy of the ECP shall be provided to personnel in a reasonable time, place and manner; specifically, each employee will receive a copy of this plan as a part of The Company's entire HSE manual at time of hire as well as an updated/revised copy annually.

If an employee misplaces their copy of this ECP, a new copy will be issued to the employee within five working days. If the employee needs access to the ECP before The Company can provide them with a new copy, an office copy will be available at all times in the office.

ENGINEERING CONTROLS AND WORK PRACTICES

Engineering controls and work practice controls will be used to prevent or minimize exposure to bloodborne pathogens. Sharps disposal containers are inspected and maintained or replaced by the responsible safety officer on a regular basis or whenever necessary to prevent overfilling.

Handwashing facilities shall be available at all work locations. If a provision of handwashing facilities is not feasible, then an appropriate antiseptic hand cleanser in conjunction with cloth or paper towels or antiseptic towelettes shall be provided by The Company.

TRAINING

All employees who have occupational exposure to bloodborne pathogens will receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. All employees shall be provided training at the time of initial assignment to task where occupational exposure may take place, and at least annually thereafter.

In addition, the training program covers, at a minimum, the following elements:

- A copy and explanation of the OSHA bloodborne pathogen standard
- Explanation of The Company ECP and how to obtain a copy
- Explanation of methods to recognize tasks and other activities that may involve exposure to blood and OPIM, including what constitutes an exposure incident.
- An explanation of the use and limitations of engineering controls, work practices and PPE
- An explanation of the types, uses, location, removal, handling, decontamination, and disposal of PPE.
- The basis of PPE selection.
- Hepatitis B vaccine information.
- Appropriate actions to take and persons to contact in an emergency involving blood or OPIM.
- The procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
- Post-Exposure evaluation and follow-up.
- Signs and labeling.

PERSONAL PROTECTIVE EQUIPMENT

PPE shall be provided by The Company to personnel at no cost to the worker. Moreover, workers will be trained by The Company or by a qualified trainer in the use of appropriate PPE for specific tasks or procedures.

The following list of PPE shall be made available to all personnel:

- Hard hats
- Goggles
- Gloves
- Reflective vests
- Fall-arrest
- Lanyards
- Fire retardant clothing
- Reinforced footwear as needed.

Additional PPE shall be stored at Office, shop, vehicles and worksites. The Fleet & Equipment Team is responsible for making all PPE available to personnel and for keeping all PPE in safe working condition. Workers who notice PPE in disrepair or in non-working order, shall notify The Fleet & Equipment Team to the defective equipment replaced or repaired.

The following work procedures and precautions shall be followed by all personnel:

- Wash hands immediately or as soon as feasible after removing gloves or other PPE.
- Remove PPE after it becomes contaminated and before leaving the work area.
- Used PPE may be disposed of in designated containers for storage, laundering, decontamination or disposal.
- Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM
- When handling or touching contaminated items or surfaces; replace gloves if torn, punctured or contaminated
- If the ability of the gloves to function as a barrier is compromised remove immediately
- Utility gloves may be decontaminated for reuse if their integrity is not compromised
- Discard utility gloves if they show signs of cracking, peeling, tearing, puncturing, or deterioration.
- Never wash or decontaminate disposable gloves for reuse.
- Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth.
- Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid contact with the outer surface.
- Contaminated needles and other sharps should only be handled by authorized or by trained personnel

HOUSEKEEPING

Personnel are responsible for keeping work areas clean and sanitary. All equipment and working surfaces must be cleaned and decontaminated using sanitizing cleanser after contact with blood or OPIM. Contaminated work surfaces must be decontaminated with disinfectant upon completion of each of the following:

- Directly following the contamination or after any spill of blood or OPIM
- At the end of the work day if the surface may have become contaminated since the last cleaning.
- All waste receptacles, buckets, and other containers shall be inspected regularly, cleaned/disinfected, and decontaminated as soon as reasonably possible if the unit is visibly contaminated.
- Broken glass shall be picked up using safe equipment such as a broom, dustpan, tongs or similar piece of equipment that is probable to mitigate worker exposure and risk.
- Broken glass must not be picked up directly with the hands even if gloved.

Regulated Waste

Regulated waste is liquid or semi-liquid blood or OPIM. Contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed. Regulated waste shall be placed in containers which are closeable, constructed to contain all contents and prevent leakage and appropriately labeled.

Labels

The following labeling methods are used at The Company's facilities to identify regulated waste, sharps disposal containers, contaminated laundry bags containers and equipment.



Onsite safety personnel shall be responsible for ensuring that warning labels or red bags are used as required. Personnel shall notify onsite safety personnel or the HSE Manager if they discover regulated waste containers, refrigerators containing blood or OPIM, contaminated equipment etc. without proper labels.

RECORDKEEPING

Training Records

Training records are completed for each employee upon successful completion of training. These documents will be kept for at least three years at the office.

Training records shall include the following information:

- Date of training
- Contents or a summary of the training
- Names and qualifications of trainer(s)
- Names and titles of all training session attendees

All training records shall be made available to all personnel upon request.

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Medical Records

Medical records shall be maintained for each employee with occupational exposure in accordance with [29 CFR 1010.1020](#), "Access to Employee Exposure and Medical Records." Written employee consent is required prior to the release of employee medical records.

The HR Team is responsible for the maintenance of required medical records. These records shall be kept confidential in accordance with HIPPA regulations for the period of employment plus thirty years. Medical records shall be provided to personnel upon request.

HEPATITIS B VACCINATION

The Company shall provide Hepatitis B vaccine to all employees that have occupational exposure at no cost to the employee(s).

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Confined Spaces

PURPOSE

The purpose of this document is to outline the Confined Space Safety Policy for **RUDTUK**; hereafter referred to as "The Company," in an effort to prevent injury to personnel, this policy will ensure specific precautions are taken while working in and around confined spaces.

RESPONSIBILITIES

The Company shall:

- Provide training to all employees and personnel
- Maintain records of all training
- Audit/inspect work conditions, operations and documentation
- Provide each manager/supervisor with necessary training and assist each manager in identifying confined spaces encountered by the supervisor's employees canceled permits to evaluate the overall effectiveness of the Confined Space Entry Program and ensure that employees participating in entry operations are protected from permit space hazards.

Safety Manager:

Supervisors, foreman and managers shall identify and report all job areas and locations that are or may be confined spaces to **the Safety Manager**.

The Safety Manager shall publish a list of all confined spaces in the office. In addition to this, designated supervisors shall carry out the following tasks:

- Classify confined spaces as "permit required," "Alternate Procedure" or "non-permit required."
- Identify personnel who will enter confined spaces.
- Identify the personnel under their supervision required to wear respirators.
- Instruct personnel on routine measurement of respiratory hazards in confined spaces.
- Provide instruction/training on confined space hazards and entry procedures to applicable personnel.
- Provide instruction/training to personnel on the proper use of equipment required for confined space entry.
- Issuance and cancellation of entry permits.
- Inspect and maintain all equipment used to enter confined spaces.
- Maintain records of equipment maintenance and personnel training.
- Inform personnel who may enter the permit confined space by posting warning/danger signs and by training.
- Establish, and disseminate a lockout program for applicable workers
- Identify and evaluate the hazards of permit spaces prior to personnel entry.

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- Conduct pre-entry meetings to inform entrants of possible hazards that are likely to be encountered.
- Conduct work site inspections to ensure compliance with confined space entry procedures.
- Prevent entrance into prohibited permit spaces by taking necessary, and reasonable measures.

The field supervisor with confined space entry oversight responsibilities shall be trained in the significance of confined space entry procedures and shall be responsible for the implementation and enforcement of the elements of this procedure in the area of operation. Field supervisors are responsible for all elements listed in the definition for Entry Supervisor (see definition section).

POLICY

All spaces owned or operated by The Company that meet the definition of permit required confined spaces shall be identified and appropriately marked, and access to such spaces shall be controlled.

Employees are prohibited from entering any space meeting the definition of permit required confined space, unless the following conditions are met:

- The Company determines that employees must enter permit required confined spaces to perform the mission of the Unit and/or the duties of the employee.
- Employees are trained in the duties under this policy which they are to perform.
- The space is rendered safe for entry by:
 - Issuance and compliance with the conditions of a permit;
 - The space is reclassified as a non-permit space; or
 - Alternate Entry Procedures are performed.

Permits issued under the procedures in this policy shall be limited in duration to no longer than eight hours.

EMPLOYEE CONTROLLED CONFINED SPACES

Identification of Confined Spaces

- The Company shall identify each space under their jurisdiction which meets the definition of confined space, if any exist, and shall maintain a list of such spaces.
- The Company shall determine if the confined space meets the definition of permit required confined space.
- Each confined space on the list shall be designated as a non-permit or permit space.
- The hazards of each permit space shall be catalogued.

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Distribution - The list shall be distributed to all affected managers and employees.

Signage – The Company shall provide for a Danger sign to be posted at the means of ingress to each identified confined space.

- Signs shall meet the requirements of Danger signs.
- The legend on the signs for permit spaces shall state: "**PERMIT REQUIRED CONFINED SPACE. DO NOT ENTER WITHOUT AUTHORIZATION AND PERMIT.**"

The supervisor with jurisdiction over employees who are required to enter an identified confined space shall:

- Receive training as an Entry Supervisor.
- Determine whether employees enter permit spaces or perform work within non-permit spaces that may cause the space to meet the definition for permit required confined space during the work activities. If so, the supervisor shall:
- Select an Entry Supervisor(s) to oversee entry activities, and provide for training of the employee(s):
- Ensure that affected employees receive training as entrants;
- Procure the necessary equipment to perform the tests required for entry
- Ensure that an adequate number of employees have received training as attendants;
- Contact the local emergency rescue agency and establish assurance that they will perform rescue coverage during entry operations;
- The supervisor, with the assistance of The Company management as necessary, shall ensure that the rescue services are adequately trained and equipped to perform rescue operations from the space in compliance with safety regulations;
- Rescue service must be on-site for immediately dangerous to life and health (IDLH) conditions while work is being performed.
- The supervisor shall procure this assurance in writing;
- The supervisor should invite rescue personnel to the site to pre-plan rescue operations; and
- If the rescue services cannot or will not perform such services, the supervisor or employee shall develop and implement a means to perform rescue for the space.

For each entry into **a non-permit space**, the designated Entry Supervisor shall review the work to be performed, to determine and carry out the following:

- If the work will introduce a hazard into the space that will cause it to meet the definition for permit required confined space, the supervisor shall:
 - Temporarily reclassify the space as a permit space;
 - Follow the procedures for entry into a permit space;
 - Upon termination of the permit, re-inspect the space and take whatever actions necessary to remove the created hazards; and
 - Reclassify the space as a non-permit space.

If the work does not introduce a hazard, the Entry Supervisor may authorize entry into the space.

For each entry into **a permit space**, the designated Entry Supervisor shall:

- Perform the pre-entry duties of the entry supervisor on the permit space to be entered;
- Prepare an entry permit, reclassify the space as a non-permit space, or authorize alternate entry procedures, in compliance with the relevant procedures of this section;
- Perform the post-entry duties of the entry supervisor;
- Collect the permit from the attendant at the end of entry, or prepare the documentation for reclassification or alternate entry; and
- Maintain the permit or documentation for the required retention period.

For the duration of each entry into a permit space, the entrants and attendants shall perform the duties outlined in these procedures and shall return the permit or documentation to the Entry Supervisor upon termination of entry. An attendant **MUST** be on duty outside the confined space for the duration of entry operations.

A person MUST NOT ENTER a confined space at a work site without a valid entry permit. An employer must establish an entry permit system for a confined space that:

- Lists the name of each worker who enters the confined space and the reason for their entry.
- Gives the location of the confined space.
- Specifies the time during which an entry permit is valid.
- Takes into account the work being done in the confined space and
- Takes into account the code of practice requirements for entering, being in, and leaving a confined space.

The Company will ensure that, before a worker enters a confined space, an entry permit is properly completed, signed by a competent person and a copy kept readily available.

CONTRACTORS

The Company shall ensure that every contract for work within an identified permit space, or work within a non-permit space that will introduce a reclassifying hazard, shall:

- Apprise the contractor that the space is a permit-required confined space and of the hazards within the space;
- Require the contractor to control entry into the space by a permit system meeting the requirements of [29 CFR 1910.146](#); and

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- Require the contractor to eliminate any temporary hazards created by the work or notify the supervisor responsible for the space of any permanent hazards created by the work.

The Contractor or its designee shall notify the responsible supervisor prior to entry.

- The supervisor shall notify any employees near or affected by entry; and
- If employees shall enter the space with contracted employees, the supervisor shall ensure that entry operations are coordinated with the contractor or designee to assure that:
 - All entrants of both employers can be accounted for during the entry;
 - The work of one employer does not endanger the employees of the second employer;
 - There is a properly trained attendant in place whenever employees of either employer have entered the space; and
 - Temporary hazards are eliminated, and the supervisor is apprised of new permanent hazards.

The Contractor or designee shall meet with the supervisor after completion of the entry to provide notification of:

- Any new permanent hazards created by the work; and/or
- Any unidentified hazards encountered during the entry.

REEVALUATION

The Company shall re-evaluate identified confined spaces within their jurisdiction to determine if such spaces should be added, deleted, or reclassified.

- Re-Evaluation shall be performed:
 - After notification by the responsible supervisor of a change in the hazards of a confined space;
 - After review by The Company during the annual inspection; and
 - After notification of changes in hazards in a confined space by employees, managers, or any other source.

FIELD STAFF

Each manager shall determine by job title any field staff that may enter permit required confined spaces and shall document the determination. Managers of employees authorized to enter permit spaces shall:

- Procure the equipment necessary for entry testing and develop procedures to provide entry supervisors with the equipment as necessary;
- Designate and train Entry Supervisors, Attendant and Entrants.
 - Field employees entering a permit space may be both the Entry Supervisor and

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- the Entrant, or the Entry Supervisor and the Attendant.
- Field employees serving as an Attendant for a permit space entry shall not be an Entrant during that entry unless relieved by another authorized attendant.
- Designate and train a Program Coordinator responsible for maintaining the required canceled permits and documentation.
- Establish procedures to provide for rescue operations.
 - The manager may contact emergency rescue personnel in each location employees are likely to encounter permit spaces, and procure in writing assurance that the emergency service:
 - Is trained in rescue procedures for the type of space employees enter;
 - Is equipped to perform rescue from the type of space; and
 - If contacted prior to entry by the entry supervisor, will indicate whether they will or will not provide rescue coverage during that entry.
- The manager may elect to develop procedures requiring Entry Supervisors to contact emergency services prior to each entry to procure coverage. Such procedures shall ensure that the entry supervisor determines that the contacted rescue services are properly trained and equipped to perform rescue in the specified space, are aware of the entry and exit times, agree to provide rescue coverage for that time, and will notify the attendant should rescue coverage end for any reason.
- The manager may elect to establish other means of guaranteeing and certifying rescue coverage. Such procedures shall address training, practice, equipment, and other relevant issues.
- Authorized employees encountering a permit space which they need to enter to carry out their job duties shall have a trained Entry Supervisor to coordinate with the entity controlling the space prior to entry.
- The Entry Supervisor shall perform the pre-entry duties for the permit space in concert with the controlling entity.
- If the controlling entity has a permit required confined space program:
 - The Entry Supervisor shall conform to the requirements of that program where they do not conflict or provide less protection than our procedures;
 - The Entry Supervisor may authorize the use of an adequately trained attendant provided by the controlling entity, upon provision or verification of training. The attendant's name, position, and employer shall be recorded on the permit;
 - The Entry Supervisor may accept actions taken by the controlling entity to authorize Alternate Entry Procedures or to reclassify the space as non-permit, after verifying and documenting the effectiveness of such actions. The Entry Supervisor may accept a copy of the controlling entity's documentation to meet the documentation requirement;
 - The Entry Supervisor may accept the controlling entity's rescue procedures if the entity agrees, but must verify that rescue personnel are notified prior to entry;
 - Upon request by the controlling entity, the Entry Supervisor shall obtain and provide the following documents as proof of program and entrant training:

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- A copy of this policy;
- A copy of our training protocol for Entrants;
- A copy of the entrant's training documentation; and
- The name and telephone number of the employer contact.
- If the controlling entity does not have a permit required confined space program or has not identified the space as permit required:
 - If the controlling entity agrees to take the actions necessary for reclassifying a space to non-permit, the Entry Supervisor may oversee such actions, test their effectiveness, and reclassify the space;
 - If conditions for Alternate Entry Procedures can be met, the Entry Supervisor may verify the achievement of the conditions and authorize Alternate Entry Procedures;
 - If the controlling entity agrees to supply and require an individual to perform the functions of an Attendant, and if the Entry Supervisor can meet the conditions outlined in this policy for Special Attendants, the Entry Supervisor may authorize the individual as the attendant for the entry and prepare the required documentation.
- The Entry Supervisor shall prepare and issue the permit or prepare the required documentation for Alternate Entry Procedures or reclassification.
- The Entrant and Attendant shall follow the procedures for their classification for the duration of the entry and return the permit or documentation to the Entry Supervisor at completion of the entry.
- The Entry Supervisor shall perform post-entry duties in concert with the controlling entity.
 - If the controlling entity has a permit required confined space program, the Entry Supervisor shall allow the controlling entity to perform the post-entry activities required by that program;
 - If the controlling entity does not have a permit required confined space program, the Entry Supervisor shall oversee the return of the space to the condition prior to entry.
- The Entry Supervisor shall immediately meet with the controlling entity to provide information on:
 - Hazards within the space of which the controlling entity was unaware, and/or
 - Any unexpected problems occurring during entry procedures.

The Entry Supervisor shall submit the canceled permit, and/or any documentation prepared as a result of entry to the Safety Coordinator, who shall retain the document for the required retention period. The Entry Supervisor shall also report any emergencies, evacuations, or other unexpected events related to the entry, which shall be recorded in writing by the Safety.

PERMITS

This program shall undergo an annual review, using the cancelled permits retained within 1 year

after each entry shall be conducted by the HSE Officer to revise the program as necessary, and ensure that employees are protected. If no confined space entries were performed during a 12-month period, no review is necessary.

TERMINATION AND CLOSING OR CANCELLING OF PERMITS

The Entry Supervisor shall terminate the confined space permit, at the end of the job operation, at the end of the shift or when the Entry Supervisor or Attendant determine that conditions in or near the confined space have changed and are potentially hazardous to the Entrants.

The Entry Supervisor shall, at the conclusion of entry operation, close out the permit and provide the Safety Officer with the original copy of the Confined Space Permit.

EMERGENCY AND RESCUE

Emergency and rescue services must be at each job site containing confined spaces for the immediately dangerous to life and health conditions. Emergency and rescue services shall be:

- Provided by the host facility;
- Provided by an outside service who has examined the entry site, practice rescue and decline as appropriate, or
- Provided by The Company by selecting a rescue team that is equipped and trained to perform necessary emergency and rescue services.

HIGH ANGLE RESCUE

Because of the broad range of variables that exist in technical rescue, there is no hard and fast rule for conducting one. The format used for organizing a successful rescue is referred to as L.A.S.T. (Locate, Access, Stabilize, and Transport). The specific method for accomplishing any of these steps will differ with each rescue and should be selected based on experience and the multitude of factors unique to the current rescue scene. Below is a list of guidelines and rules designed to minimize the danger to rescuers as they perform their duties.

Because of the inherent risks involved in high angle rescue, the method of rescue offering the least risk to the rescuer will be used. The following methods are listed in increasing order of risk. Factors influencing the selection include patient condition, rigging time, available manpower and/or equipment, and terrain conditions.

1. Talk victim into self-rescue.
2. Walk or climb with a belay line.
3. Rappel or lower with a belay line.
4. Pick-off with an independent belay.
 - Raise victim with a belay.
 - Raise victim and rescuer with a belay.
 - Proceed with the stretcher evacuation.

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Rescuer safety is paramount in any rescue situation. Prior to conducting any high angle operations, a Safety Officer and Rescue Group Supervisor will be clearly identified. The rescuer will establish a safe zone around the rigging and operations area as soon as possible. Additionally, all rescue personnel shall adhere to the following safety guidelines.

Helmets and rescue gloves shall be worn at all times.

- Edge protection shall be used anywhere that a rope comes in contact with a hard surface.
- All life safety ropes shall be double anchored prior to loading.
- An independent belay shall be used. NFPA 1983 Standards on Life Safety Rope will be followed whenever possible.

Anchors are a mixture of equipment, knot tying, and judgment. With this said, all lifelines shall have two independent anchors. A large heavy object may be used for both the primary and backup anchors. Anchors may be natural (trees and boulders), structural (buildings, bridges, and towers), vehicles, or picket pins.

KNOT TYING

Knots shall be rated for strength by the percentage of rope strength that remain when the knot is tied; knots should always be tied off.

- Pre-Permit Duties of the Entry Supervisor
 - The Entry Supervisor shall record on the permit a descriptive identification of the permit space and its location.
 - The Entry Supervisor shall record on the permit the date of entry, the time of issuance, and the time of expiration. No permit shall be issued for a period longer than eight hours.
- The Entry Supervisor shall record on the permit the reason for the entry.
- The Entry Supervisor shall survey the permit space without entry and review the work to be performed, to identify the existing or potential hazards. Such hazards shall be recorded on the permit.
 - Gases or vapors which could displace the oxygen or processes which could consume oxygen;
 - Flammable gases;
 - Any other chemicals, gases, fumes, or mists which could be present or released by entry activities;
 - A potential for low levels of oxygen from a lack of adequate ventilation;
 - A potential for high levels of oxygen;
 - Liquids or flowable solids which could engulf an entrant;
 - Inwardly converging walls, sloped floors that taper to a smaller cross-section, pits or holes in the floor into which an entrant could stumble into and become wedged, and/or other characteristics of the configuration of the space which could trap or asphyxiate an entrant;

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- Radiation;
- Bare, exposed, or ungrounded conductive parts of electrical equipment, machinery, wiring, fixtures, or installations;
- Unguarded points of operation or moving parts of machinery; and
- Any other recognized hazard that could result in accidental injury or occupational illness requiring treatment greater than first aid.
- The entry supervisor shall determine the actions necessary prior to entry to eliminate or control the hazards and shall record them on the permit.
 - Notification of the selected rescue personnel shall be required for each entry.
 - Atmospheric Hazards.
- If a potential or actual atmospheric hazard exists, testing shall be required.
 - Oxygen, flammable gas, and carbon monoxide tests shall be conducted.
 - The Entry Supervisor shall obtain and list the Permissible Exposure Limits (PEL) for each identified air contaminant.
 - The Entry Supervisor shall test for each identified air contaminant.

The Entry Supervisor shall determine if the atmospheric hazard can be eliminated or controlled by purging, venting, inerting, continuous forced air ventilation, or combination.

If the only hazard in a space is a hazardous atmosphere and Alternate Entry Procedures are the desired means of entry, forced air is required.

- Engulfment Hazard elimination or control by blanking, binding, double block and bleed, line braking, or other methods.
- Configuration Control means. Configuration hazards usually cannot be eliminated.
- Other Serious Hazards elimination or control by lock-out/tag-out or other means.
- The need for traffic control devices to isolate the permit space from vehicular and pedestrian traffic as well as any other potential external hazard.

The Entry Supervisor shall determine and record the required equipment for entry.

- Equipment for the Attendant to summon rescue and the Entry Supervisor is required for all permit entries.
- Equipment designed to test oxygen, flammable gases, and carbon monoxide shall be required for all permit spaces with hazardous atmospheres.
- Equipment designed to test levels of identified airborne contaminants shall be required where such have been identified.
- A forced air ventilation system is required for Alternate Entry Procedures and shall be required if determined by the Entry Supervisor.
- Personal protective equipment is required where hazards cannot be effectively eliminated or controlled.
- Traffic control equipment is required if the permit space is not effectively isolated from vehicle or pedestrian traffic.

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- Mechanical rescue equipment is required unless its use creates a greater hazard or would not effectively contribute to rescue.
- Body Harness with retrieval line attached at the upper back should be used whenever feasible.
- Wristlets may be used where body harnesses are not feasible.
- Mechanical retrieval devices shall be used for vertical entries into spaces deeper than five feet. Mechanical devices or fixed-point connection may be used otherwise.
- Communication equipment is required where entrants will be out of voice range with the Attendant
- Other equipment shall be selected as need requires.

The Entry Supervisor shall identify the authorized entrants and at least one attendant and shall record their names on the permit. The Entry Supervisor shall determine the type of entry that is allowed.

- If the pre-entry survey proves that the only hazard existing in the space is atmospheric and continuous forced air ventilation is provided, the Entry Supervisor may authorize Alternate Entry Procedures under stipulation that:
 - The initial atmospheric tests indicate the atmosphere meets the entry requirements;
 - Forced Air Ventilation continues for the duration of the entry; and
 - The Attendant performs atmospheric tests once per hour and records them on the Air Monitoring Log on the permit.

If the pre-entry survey proves that there are no atmospheric or configuration hazards in the permit space, and that all other identified hazards can be eliminated (as opposed to controlled) from outside the space prior to entry, the Entry Supervisor may reclassify the space as Non-Permit contingent upon the completion of all hazard elimination activities.

- If a non-permit entry is approved, the employee designated as Attendant on the permit shall serve as Lead Entrant. The permit shall serve as the required documentation.
- If no other type of entry is obtainable or selected, entry shall be by the permit process.
- The Entry Supervisor shall indicate any other permits issued for simultaneous work within the space and shall indicate the means to contact rescue personnel.
- The Entry Supervisor shall sign and issue the permit, effective upon the date issued and contingent upon completion of all pre-entry activities and expiring on the date indicated on the permit.

PRE-ENTRY ACTIONS

If the hazard assessment identifies a potential atmospheric hazard and a worker is required or authorized by an employer to enter the confined space, the employer must ensure that a competent worker performs a pre-entry atmospheric test of the confined space to:

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- Verify that the oxygen content is between 19.5 percent and 23.0 percent by volume, and
- Identify the amount of toxic, flammable, or explosive substance that may be present.

The Company must ensure that as often as necessary after the first time a worker enters the confined space, a competent worker:

- Performs atmospheric testing, and
- Identifies and records any additional hazards.

The Company must ensure that if there is a potential for the atmosphere to change unpredictably after a worker enters the confined space, the atmosphere is continuously monitored.

If atmospheric testing identifies that a hazardous atmosphere exists or is likely to exist in a confined space, The Company must ensure that the confined space is ventilated, purged, or both before a worker enters the confined space. If ventilating or purging a confined space is impractical or ineffective in eliminating a hazardous atmosphere, the employer must ensure that a worker who enters the confined space uses personal protective equipment appropriate for the conditions within the confined space.

The Entry Supervisor shall ensure that required equipment is procured and available, and that pre-entry actions are completed prior to entry. The Entry Supervisor may perform these duties or may delegate them to the Attendant and/or other authorized Entrants.

Each pre-entry requirement successfully met shall be checked off in the block provided on the permit. When all requirements are completed, the responsible employee shall verify the actions by signing the permit.

Required atmospheric testing shall be performed in the order indicated below after the pre-entry actions to address atmospheric hazards have been performed. Entry may proceed only if the tests indicate:

- The percentage of oxygen in the permit space is between 19.5% and 23.5%.
- The percentage of flammable gases is at or lower than 10 percent of the Lower Flammable Limit.
- The parts per million parts (ppm) of carbon monoxide is at or lower than 17.
- The amount of other identified air contaminants is/are less than one-half the PEL. Where more than one air contaminant is observed, those contaminants will be reviewed for additive effects.
- The permit shall be posted at the point of entry into the space, and each authorized employee shall review it to become familiar with the hazards of the space and the acceptable entry conditions.

The Company will ensure that workers within a confined space are protected against the release of hazardous substances or energy that could harm them. The Company shall also ensure that a worker does not enter a confined space unless adequate precautions are in place to protect a worker from drowning, engulfment, or entrapment.

The Company will ensure that any hazardous energy in a restricted space is locked/ tagged out.

A person must not enter or work in a confined space if more than 20 percent of the lower explosive limit of a flammable or explosive substance is present in the atmosphere.

Barriers and barricades will be set up and used to prevent unauthorized entry into the confined space.

ENTRY

Entrants shall:

- Enter the space and perform the assigned work as expediently as possible;
- Wear and use all equipment required by the permit;
- Notify the Attendant or Lead Entrant periodically or upon request that all is well;
- Know all potential hazards that may be encountered during entry, including information on the signs, symptoms and consequences of the exposure;
- Use all required PPE such as eye protection, gloves and breathing equipment;
- Shall witness and verify calibrated air monitoring data and if approved, sign off, before entry is made;
- Is entitled to additional monitoring at any time;
- Always maintain communication with Attendant to ensure the Attendant is able to monitor the Entrants status and to identify the need for rescue;
- Immediately evacuate the space and alert the Attendant or Lead Entrant whenever any of the following occurs:
 - The development of a condition not in compliance with the permit;
 - The development of a sign or symptom of exposure to a dangerous situation;
 - Failure of any required equipment; and/or
 - The Attendant or Lead Entrant orders an evacuation.

Lead/Supervisor Entrants shall:

- Maintain awareness of the location of the entrants, either inside or outside of the permit space;
- If entry is by Alternate Entry Procedures, perform hourly atmospheric monitoring of the space and record on the Gas Monitoring Log of the permit;
- Order an immediate evacuation upon becoming aware of:
 - Any sign or symptom of exposure to a dangerous situation;
 - Any development of a condition not in compliance with the permit; and/or
 - Failure of any required equipment.

Attendants:

Single Attendants are not permitted to monitor more than one confined space at any given time.

For every confined space or restricted space entry, The Company shall designate a competent worker to be in communication with a worker in the confined space or restricted space. The Company will also ensure that the designated worker has a suitable system for summoning assistance.

If more than a single attendant monitors one confined space, the following means and procedures shall be used in order to enable the attendant to respond to emergencies in one or more permit spaces that he/she is monitoring without distraction from all responsibilities.

- Station themselves outside the permit space at the opening to the space, and remain in place throughout the duration of the entry or until relieved by another authorized Attendant;
- Perform no other duties beyond those stated for Attendants;
- Maintain an accurate count of entrants within and without the space, by use of the Entry Log on the permit;
- Perform hourly atmospheric monitoring of spaces containing hazardous atmospheres, and record on the Gas Monitoring Log on the permit;
- Communicate with entrants by voice or communication equipment periodically to assure that all is well;
- Order an immediate evacuation of the space:
 - Upon becoming aware of the development of a sign or symptom of an exposure to a dangerous situation;
 - Upon becoming aware of the development of a condition out of compliance with the permit;
 - Upon failure of an entrant to answer an attempt at communication; and/or
 - If unable to continue the performance of functions as an Attendant.
- Summon rescue services if needed;
- The Company shall provide entrants with a form of communication such as radio, cell phone, or walkie-talkie like device to summon rescue in the case of an emergency
- Warn unauthorized persons away from the permit space; and
- Summon the Entry Supervisor if unauthorized persons refuse to leave the space.

The Entry Supervisor shall remove unauthorized persons from the permit space, as needed.

COMPLETION OF ENTRY

- The Attendant or Lead Entrant shall assure that all entrants have exited the space.
- If the space was evacuated prior to completion of work:

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- The Attendant or Lead Entrant shall immediately terminate the permit by checking the appropriate box and describing the reasons for evacuation on the permit, then contacting the Entry Supervisor;
- The Entry Supervisor shall:
 - Immediately notify the employee's supervisor of any injured or overexposed employee;
 - Determine if reentry is required to complete work, eliminate a created hazard, or return the space to normal operation.
- If reentry must be performed:
 - Resurvey the space to determine the cause of the evacuation; and
 - Issue another permit which includes the elimination or control of the hazard causing the evacuation. Alternate Entry Procedures and Reclassification to Non-Permit Space shall not be approved.
- If reentry is unnecessary:
 - Oversee the completion of the post-entry activities indicated on the permit; and
 - End the entry activities.
- If the entry was successfully completed, the Attendant or Lead Entrant shall:
 - Indicate such by checking the appropriate block on the permit;
 - Oversee the completion of post-entry actions indicated on the permit, and verify by signing in the appropriate location;
 - Add any pertinent information concerning the entry on the permit; and
 - Return the permit to the Entry Supervisor.

TRAINING

The Company shall ensure that a worker assigned duties related to confined space or restricted space entry is trained by a competent person in:

- Recognizing hazards associated with working in confined spaces or restricted spaces; and
- Performing the worker's duties in a safe and healthy manner

The Company will ensure that competence in the following is represented in the workers responding to a confined space or restricted space emergency.

- First aid;
- The use of appropriate emergency response equipment;
- Procedures appropriate to the confined space or restricted space.

Training may be performed in-house or by a 3rd party.

All Employees:

- The supervisor shall ensure that each employee receives awareness training on:
 - The identifying characteristics of a confined space;
 - The identifying characteristics of a permit space;

- The authorization or prohibition of their job classification to enter permit spaces;
- Required actions when working around or near a permit space entry; and
- The authority of authorized Attendants and Entry Supervisors.

Each affected employee shall be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created or special deviations have occurred.

Training shall be required:

During orientation;

- Within two months of the determination of the employee's entry authorization, but prior to entry; and
- Whenever the supervisor becomes aware that the employee has failed to follow the instructions provided in the training.
- The Supervisor shall provide the Program Coordinator with notification that training has been received.

PROGRAM COORDINATORS

The Company shall ensure that the designated Program Coordinator receives training in:

- The requirements of this policy and procedures; and
- The duties the Coordinator shall perform.
- Training shall be provided:
 - Within two months after designation as Program Coordinator; and
 - Within one month of revisions to this policy and/or procedures.

ENTRY SUPERVISORS, ATTENDANTS, AND ENTRANTS

The Supervisor shall ensure that employees designated as Entry Supervisors, Attendants, and/or Entrants receive training in:

- The requirements of this policy and any Procedures;
- The duties, authority, and responsibilities of Entry Supervisors, Attendants, Lead Entrants, and Entrants;
- The types of hazards expected to be encountered in permit spaces;
- The calibration, use, care and cleaning of equipment expected to be used during entry operations; and
- The performance of pre-entry actions expected to be required in permit spaces.
- Training shall be provided:
 - Prior to assignment or authorization of duties within permit spaces;
 - Within one month after revisions of this policy or procedures. Assignment or authorization for permit space entry shall be suspended until training is completed;

- Whenever the supervisor becomes aware that an employee is deviating from the procedures of this policy. Assignment or authorization for permit space entry shall be suspended until training is completed; and annually

The supervisor shall develop written certification that each affected employee has successfully completed training.

- Certification shall include:
 - Employee Name;
 - Authorized Duty (Entry Supervisor, Attendant, and/or Entrant);
 - Name and signature of the Trainer; and
 - Synopsis of topics covered.
 - Date of training

A copy of the certification shall be provided to the employee and Program Coordinator/authorized representative

MULTI EMPLOYER PROCEDURE

When The Company arranges to have employees of another employer perform work that involves permit space entry The Company shall:

- Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this section;
- Appraise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space;
- Appraise the contractor of any precautions or procedures that The Company has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;
- Coordinate entry operations with the contractor, when both The Company personnel and contractor personnel will be working in or near permit spaces.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Company will ensure that the personal protective equipment and emergency equipment is available to workers undertaking rescue operations in a confined space to perform a timely rescue and will ensure that a worker does not enter or remain in a confined space unless an effective rescue can be carried out.

The Company will ensure that the emergency response plan includes the emergency procedures to be followed if there is an accident or other emergency, including procedures in place to evacuate the confined space immediately.

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Cranes

PURPOSE

The purpose of this document is to outline the Crane and Hoist Program for **RUDTUK**; hereafter referred to as "The Company." The Company policy is to maintain a safe workplace for its employees; therefore, only qualified and licensed individuals shall operate these devices. The safety rules and guidance in this program apply to all operations at The Company that involve the use of cranes and hoists installed in or attached to buildings and to all of The Company employees, supplemental labor, and subcontractor personnel who use such devices.

RESPONSIBILITIES

Supervisors

- Ensuring that employees under their supervision receive the required training and are certified and licensed to operate the cranes and hoists in their areas.
- Providing training for prospective crane and hoist operators. This training must be conducted by a qualified, designated instructor who is a licensed crane and hoist operator and a full-time employee.
- Evaluating crane and hoist trainees using the Crane Safety Checklist and submitting the Qualification Request Form to the Safety Office to obtain the operator's license.
- Ensuring that hoisting equipment is inspected and tested monthly by a responsible individual and that rigging equipment is inspected annually.

Crane and Hoist Operators

- Operating hoisting equipment safely.
- Conducting functional tests prior to using the equipment.
- Selecting and using rigging equipment appropriately.
- Having a valid operator's license on their person while operating cranes or hoists.
- Participating in the medical certification program, as required.

Engineering/Maintenance/Operations Department

- Performing annual maintenance and inspection of all cranes and hoists that are not covered by a program with maintenance responsibility.
- Conducting periodic and special load tests of cranes and hoists.
- Maintaining written records of inspections and tests and providing copies of all inspections and test results to facility managers and building coordinators who have cranes and hoists on file.
- Inspecting and load testing cranes and hoists following modification or extensive repairs (e.g., a replaced cable or hook, or structural modification.)

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- Scheduling a non-destructive test and inspection for crane and hoist hooks at the time of the periodic load test, and testing and inspecting before use new replacement hooks and other hooks suspected of having been overloaded. The evaluation, inspection, and testing may include, but are not limited to visual, dye penetrant, and magnetic particle techniques referenced in ASME B30.10 (Hooks, Inspection and Testing.)
- Maintaining all manuals for cranes and hoists in a central file for reference.

Safety Officer

- Conducting training for all Crane and Hoist Operators
- Issuing licenses to Crane and Hoist Operators
- Periodically verifying monthly test and inspection reports.
- Interpreting crane and hoist safety rules and standards.

POLICY

All workers who use any of The Company crane or hoists shall have an operator's license. The Company issues licenses for authorized employees who have been specifically trained in crane and hoist operations and equipment safety.

CRANE AND HOIST OPERATORS

To be qualified as a Crane and Hoist Operator, the candidate shall have received hands-on training from a licensed, qualified crane and hoist operator designated by the candidate's supervisor. Upon successful completion of training, the licensed crane and hoist operator and the candidate's supervisor will fill out and sign the Qualification Request Form and Crane Safety Checklist and send them to the Safety Office for approval. The candidate will be issued a license upon approval by the Safety Manager. Crane and Hoist Operators must renew their license every three years by satisfying the requirements described above.

Only those employees qualified by training or experience shall be allowed to operate equipment and machinery. Operators shall be qualified/certified by one of the following methods:

- Certification by an accredited crane operator testing organization;
- Qualification by an audited employer program;
- Qualification by the U.S. military;
- Licensing by a government entity.

CRANE AND HOIST SAFETY DESIGN REQUIREMENTS

Following are the design requirements for cranes and hoists and their components:

- The design of all commercial cranes and hoists shall comply with the requirements of ASME/ANSI B30 standards and Crane Manufacturer's Association of America standards (CMAA-70 and CMAA-74). **RUDTUK** - fabricated lifting equipment shall comply with

the requirements in Chapter 2.2 (Lifting Equipment) of Mechanical Engineering *Design Safety Standards* (latest edition).

- All crane and hoist hooks shall have safety latches.
- Hooks shall not be painted (or re-painted) if the paint previously applied by the manufacturer is worn.
- Crane pendants shall have an electrical disconnect switch or button to open the main-line control circuit.
- Cranes and hoists shall have a main electrical disconnect switch. This switch shall be in a separate box that is labeled with lockout capability.
- Crane bridges and hoist monorails shall be labeled on both sides with the maximum capacity.
- Each hoist-hook block shall be labeled with the maximum hook capacity.
- Directional signs indicating N-W-S-E shall be displayed on the bridge underside, and a corresponding directional label shall be placed on the pendant.
- A device such as an upper-limit switch or slip clutch shall be installed on all building cranes and hoists. A lower-limit switch may be required when there is insufficient hoist rope on the drum to reach the lowest point.
- All cab and remotely operated bridge cranes shall have a motion alarm to signal bridge movement.
- All newly installed cranes and hoists, or those that have been extensively repaired or rebuilt structurally, shall be load tested at 125% capacity prior to being placed into service.
- If an overload device is installed, a load test to the adjusted setting is required.
- Personnel baskets and platforms suspended from any crane shall be designed in accordance with the specifications by The Company.

GENERAL SAFETY RULES

Operators shall comply with the following rules while operating the cranes and hoists:

- Do not engage in any practice that will divert your attention while operating the crane.
- Respond to signals only from the person who is directing the lift or any appointed signal person. Obey a stop signal at all times, no matter who gives it.
- Do not move a load over people. People shall not be placed in jeopardy by being under a suspended load. Also, do not work under a suspended load unless the load is supported by blocks, jacks, or a solid footing that will safely support the entire weight. Have a crane or hoist operator remain at the controls or lock open and tag the main electrical disconnect switch.
- Ensure that the rated load capacity of a crane's bridge, individual hoist, or any sling or fitting is not exceeded. Know the weight of the object being lifted or use a dynamometer or load cell to determine the weight.
- Check that all controls are in the OFF position before closing the main-line disconnect switch.

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- If spring-loaded reels are provided to lift pendants clear off the work area, ease the pendant up into the stop to prevent damaging the wire.
- Avoid side pulls. These can cause the hoist rope to slip out of the drum groove, damaging the rope or destabilizing the crane or hoist.
- To prevent shock loading, avoid sudden stops or starts. Shock loading can occur when a suspended load is accelerated or decelerated and can overload the crane or hoist. When completing an upward or downward motion, ease the load slowly to a stop.
- Equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met.
- The manufacturer's procedures and prohibitions must be complied with when assembling and disassembling equipment.
- The assembly/disassembly of equipment must be directed by a competent and qualified person.
- The work zone shall be identified by demarcating boundaries such as flag and range limiting devices or defining the work zone as 360 degrees around the equipment up to the maximum working radius. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line.
- All manufacturer procedures applicable to the operational functions of equipment, including its use with attachments, must be complied with.

OPERATION RULES

The operator shall have access to procedures applicable to the operation of the equipment. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions and operator's manual. The operator's manual must be readily available in the cab of the crane at all times.

Whenever there is a safety concern, the operator is granted the authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured.

The Safety Officer or competent person available on the worksite shall identify hazard areas by marking the boundaries of the crane swing radius with warning lines, railings or similar barriers. Workers within proximity of the operational equipment shall not stand or work within this safety boundary or at any place where the potential to be struck by, pinched or crushed by the equipment or other related moving parts.

PRE-OPERATIONAL TEST

At the start of each work shift, operators shall do the following steps before making lifts with any crane or hoist:

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- Test the upper-limit switch. Slowly raise the unloaded hook block until the limit switch trips.
- Visually inspect the hook, load lines, trolley, and bridge as much as possible from the operator's station; in most instances, this will be the floor of the building.
- If provided, test the lower-limit switch.
- Test all direction and speed controls for both bridge and trolley travel.
- Test all bridge and trolley limit switches, where provided, if operation will bring the equipment in close proximity to the limit switches.
- Test the pendant emergency stop.
- Test the hoist brake to verify there is no drift without a load.
- If provided, test the bridge movement alarm.
- Lock out and tag for repair any crane or hoist that fails any of the above tests.

If it is determined that any part of the equipment, load line or load could get closer than 20 feet to a power line then at least one of the following measures must be taken:

- Ensure the power lines have been de-energized and visibly grounded
- Ensure no part of the equipment, load line or load gets closer than 20 feet to the power line
- Determine the line's voltage and minimum approach distance permitted.

MOVING LOAD

- Center the hook over the load to keep the cables from slipping out of the drum grooves and overlapping, and to prevent the load from swinging when it is lifted. Inspect the drum to verify that the cable is in the grooves.
- Use a tag line when loads must traverse long distances or must otherwise be controlled. Manila rope may be used for tag lines.
- Plan and check the travel path to avoid personnel and obstructions.
- Lift the load only high enough to clear the tallest obstruction in the travel path.
- Start and stop slowly.
- Land the load when the move is finished. Choose a safe landing.
- **Never** leave suspended loads unattended. In an emergency where the crane or hoist has become inoperative, if a load must be left suspended, barricade and post signs in the surrounding area, under the load, and on all four sides. Lock open and tag the crane or hoist's main electrical disconnect switch.

PARKING CRANE AND HOIST

- Remove all slings and accessories from the hook. Return the rigging device to the designated storage racks.
- Raise the hook at least 2.1 m (7-ft) above the floor.
- Store the pendant away from aisles and work areas or raise it at least 2.1 m (7 ft) above the floor.

RIGGING

General Rigging Safety Requirements

Only select rigging equipment that is in good condition. All rigging equipment shall be inspected annually; defective equipment is to be removed from service and destroyed to prevent inadvertent reuse. The load capacity limits shall be stamped or affixed to all rigging components.

The Company policy requires a minimum safety factor of 5 to be maintained for wire rope slings. The following types of slings shall be rejected or destroyed:

Nylon slings with:

- Abnormal wear.
- Torn stitching.
- Broken or cut fibers.
- Discoloration or deterioration.

Wire-rope slings with:

- Kinking, crushing, bird caging, or other distortions.
- Evidence of heat damage.
- Cracks, deformation, or worn end attachments.
- Six randomly broken wires in a single rope lay.
- Three broken wires in one strand of rope.
- Hooks opened more than 15% at the throat.
- Hooks twisted sideways more than 10deg. from the plane of the unbent hook.

Alloy steel chain slings with:

- Cracked, bent, or elongated links or components.
- Cracked hooks.
- Shackles, eye bolts, turnbuckles, or other components that are damaged or deformed.

RIGGING A LOAD

Do the following when rigging a load:

- Determine the weight of the load. Do not guess.
- Determine the proper size for slings and components.
- Do not use manila rope for rigging.
- Make sure that shackle pins and shouldered eyebolts are installed in accordance with the manufacturer's recommendations.
- Make sure that ordinary (shoulder less) eyebolts are threaded in at least 1.5 times the bolt diameter.
- Use safety hoist rings (swivel eyes) as a preferred substitute for eye bolts wherever possible.

- Pad sharp edges to protect slings. Remember that machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into rigging when under several tons of load. Wood, tire rubber, or other pliable materials may be suitable for padding.
- Do not use slings, eyebolts, shackles, or hooks that have been cut, welded, or brazed.
- Install wire-rope clips with the base only on the live end and the U-bolt only on the dead end. Follow the manufacturer's recommendations for the spacing for each specific wire size.
- Determine the center of gravity and balance the load before moving it.
- Initially lift the load only a few inches to test the rigging and balance.

CRANE OVERLOADING

Cranes or hoists shall not be loaded beyond their rated capacity for normal operations. Any crane or hoist suspected of having been overloaded shall be removed from service by locking open and tagging the main disconnect switch. Additionally, overloaded cranes shall be inspected, repaired, load tested, and approved for use before being returned to service.

WORKING AT HEIGHTS ON CRANES OR HOISTS

Anyone conducting maintenance or repair on cranes or hoists at heights greater than 1.8 m (6 ft) shall use fall protection. Fall protection should also be considered for heights less than 1.8 m. Fall protection includes safety harnesses that are fitted with a lifeline and securely attached to a structural member of the crane or building or properly secured safety nets.

Use of a crane as a work platform should only be considered when conventional means of reaching an elevated worksite are hazardous or not possible. Workers shall not ride a moving bridge crane without an approval from the Safety Office, which shall specify the following as a minimum:

- Personnel shall not board any bridge crane unless the main disconnect switch is locked and tagged open.
- Personnel shall not use bridge cranes without a permanent platform (catwalk) as work platforms. Bridge catwalks shall have a permanent ladder access.
- Personnel shall ride seated on the floor of a permanent platform with approved safety handrails, wear safety harnesses attached to designated anchors, and be in clear view of the crane operator at all times.
- Operators shall lock and tag open the main (or power) disconnect switch on the bridge catwalk when the crane is parked.

HAND SIGNALS

A signal person shall be provided anytime the operator's view is obstructed, if site specific safety concerns require it, or if the operator determines that it is necessary.

The signal person must also be provided for the following situations:

- The point of operation is not in full view of the operator
- The view is obstructed when the equipment is traveling
- The operator or the person handling the load determines it is necessary due to site specific concerns

Signals to the operator shall be in accordance with the standard hand signals unless voice communications equipment (telephone, radio, or equivalent) is used. Signals shall be discernible or audible at all times. Some special operations may require addition to or modification of the basic signals. For all such cases, these special signals shall be agreed upon and thoroughly understood by both the person giving the signals and the operator and shall not be in conflict with the standard signals.

INSPECTION, MAINTENANCE, AND TESTING

A competent person must conduct a visual inspection of equipment prior to each shift. The inspection must consist of observation for apparent deficiencies. Some inspection items shall include control mechanisms, pressurized lines, hooks and latches, wire rope, electrical apparatus, tires (when used), and ground conditions. All tests and inspections shall be conducted in accordance with the manufacturer's recommendations.

Monthly Tests and Inspections

Equipment must be inspected monthly by a competent person. The inspection must be documented. Documentation must include the following:

- Items Checked
- Results of Inspection
- Name and Signature of the inspector

Documentation must be retained for 3 months.

Defective cranes and hoists shall be locked and tagged "out of service" until all defects are corrected. The inspector shall initiate corrective action by notifying the facility manager or building coordinator.

Annual Inspections

The Safety Department shall schedule and supervise (or perform) annual preventive maintenance (PM) and annual inspections of all cranes and hoists. The annual PM and inspection shall cover:

- Hoisting and lowering mechanisms.

- Trolley travel or monorail travel.
- Bridge travel.
- Limit switches and locking and safety devices.
- Structural members.
- Bolts or rivets.
- Sheaves and drums.
- Parts such as pins, bearings, shafts, gears, rollers, locking devices, and clamping devices.
- Brake system parts, linings, pawls, and ratchets.
- Load, wind, and other indicators over their full range.
- Gasoline, diesel, electric, or other power plants.
- Chain-drive sprockets.
- Crane and hoist hooks.
- Electrical apparatus such as controller contractors, limit switches, and push button stations.
- Wire rope.
- Hoist chains.

Safety devices are required to be on all equipment and must be in proper working order before operations begin. If any of the devices are not in proper working order the equipment must be taken out of service and operations must not resume until the device is working properly again.

Examples of safety devices may include crane level indicator, boom stops, jib stops, foot pedal brake locks, horns, etc.

LOAD TESTING

- Newly installed cranes and hoists shall be load tested at 125% of the rated capacity by designated personnel.
- Slings shall have appropriate test data when purchased. It is the responsibility of the purchaser to ensure that the appropriate test data are obtained and maintained.
- Re-rated cranes and hoists shall be load tested to 125% of the new capacity if the new rating is greater than the previous rated capacity.
- Fixed cranes or hoists that have had major modifications or repair shall be load tested to 125% of the rated capacity.
- Cranes and hoists that have been overloaded shall be inspected prior to being returned to service.
- Personnel platforms, baskets, and rigging suspended from a crane or hoist hook shall be load tested initially, then re-tested annually thereafter or at each new job site.
- All cranes and hoists with a capacity greater than 2722 kg (3 tons) should be load tested every four years to 125% of the rated capacity. Cranes and hoists with a lesser capacity should be load tested every eight years to 125% of the rated capacity.

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MODIFICATIONS

The manufacturer must approve all modifications/additions in writing. A registered professional engineer must be qualified with respect to the equipment involved and must ensure the original safety factor of the equipment is not reduced.

RECORDS

The Safety Department shall maintain records for all cranes, hoist and rigging equipment.

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Disciplinary

PURPOSE

The purpose of this document is to outline progressive disciplinary policy for **RUDTUK**; hereafter referred to as "The Company." This policy is designed to provide a structured corrective action process to improve and prevent a recurrence of undesirable employee behavior and performance.

The Company reserves the right to combine or skip steps set forth in this policy based upon an evaluation of each specific situation and the nature of the offense. The level of disciplinary intervention may also vary based on factors such as repeat offenses, prior warnings and the nature of the violation.

RESPONSIBILITIES

Supervisors, project superintendents/foreman and the safety department shall be responsible for the enforcement of this disciplinary program.

All personnel, except those in their initial introductory (probationary) period, are subject to this policy; application shall be applied uniformly to achieve fair and impartial treatment to each person.

POLICY

The Application of this policy is purposed to prevent undesirable, dangerous or any other form of unacceptable conduct, such as not following verbal or written safety procedures, guidelines, rules, horseplay, failure to wear selected personal protective equipment (PPE), abuse of PPE Etc., in order to provide employees with an opportunity to correct their conduct in the future, and to assure a positive productive working environment.

INSPECTIONS

Physical inspections of work areas must be conducted to ensure compliance with safety rules and policies. Personnel responsible to conduct physical inspections are superintendents, foreman, team leads, drivers and anyone operating equipment on behalf of The Company.

VIOLATIONS AND ENFORCEMENT

Each violation shall be investigated by management to ensure that an accurate and factual assessment of the infraction is documented. Corrective actions taken are meant to be corrective rather than punitive and shall be appropriate to each offense.

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In the case of an infraction or when unacceptable behavior is witnessed or reported, the following shall occur:

Step 1 (1st Offense): The immediate supervisor shall **meet in person with the employee** **to** bring attention to the violation, conduct or performance/attendance issue. The supervisor shall discuss the nature of the violation with the employee. The supervisor shall clearly describe expectations and steps the employee must take in order to improve or correct the problem.

Step 2 (2nd Offense): The second offense, violation or unacceptable behavior will result in a **written warning**. The process of step 2 includes a formal documentation of the offense, and shall include a description of the offense, the consequences of the current violation as well as the consequences that the employee may incur if a third offense occurs. The immediate supervisor and one witness, of equal or higher authority within The Company, shall be present for the presentation of this incident form, meeting and documentations process.

A performance improvement plan may be set forth at the sole discretion of The Company.

Step 3 (3rd Offense): Final written warning, suspension or termination may occur at this step, based upon the nature of the offense and the details of the performance improvement plan described in Step 3.

Step 4 (4th Offense): Termination

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Driving Safety

PURPOSE

This program covers safe operation and maintenance of all **RUDTUK OPERATING LLC** company vehicles except those company vehicles regulated by the Interstate Commerce Commission or US Department of Transportation. Examples of vehicles covered include company-owned-or-leased passenger vehicles, pickup trucks, light trucks and vans that do not require a commercial driver's license for operation.

RESPONSIBILITIES

Management

- Provide annual defensive-driver training for all employees authorized to operate company vehicles.
- Train authorized employees on vehicle inspection and accident procedures.
- Maintain company vehicles in a safe condition.
- Maintain active insurance policies on all company vehicles.

Authorized Drivers

- Authorized drivers shall follow the safe driving guidelines set forth in this policy at all times.
- Operate company vehicles in a safe, responsible manner and obey all traffic laws.
- Participate in driver-training programs.
- Participate in the company drug-testing program.
- Ensure all vehicle occupants use seatbelts before moving the vehicle.
- Follow safe fueling procedures.
- Conduct a pre-use inspection before any first daily use.
- Immediately report any safety defects or vehicle problems.
- Report use of all prescription medication.

Training

All employees authorized to operate company-owned-or-leased vehicles will participate in initial and annual driver-safety training that will include:

- Defensive driving
- Vehicle inspection
- Accident procedures
- Hazardous weather driving
- Procedure for notification of unsafe vehicle
- Backing procedures (light truck & van operators)
- Cargo area storage (light truck & van operators)
- Loading & unloading (light truck & van operators)

Applicable/Placards

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OSHA is hereby issuing a final rule that requires employers who receive a package, transport vehicle, freight container, motor vehicle or rail freight car which contains a hazardous material and which is required to be marked, placarded, or labeled in accordance with jurisdictional requirements and the U.S. Department of Transportation's (DOT) Hazardous Materials Regulations, to retain the markings, placards, and labels on the package, transport vehicle, freight container, motor vehicle or rail freight car.

This rule is issued pursuant to section 6(b) of the Occupational Safety and Health Act of 1970 (the Act) and in accordance with section [29 of Public Law 101-615](#), the Hazardous Materials Transportation Uniform Safety Act of 1990 (HMTUSA).

POLICY

- Only authorized employees will drive a motor vehicle in the course and scope of work or operate a company-owned vehicle.
- Vehicles will be maintained in a safe condition at all times. In the event of an unsafe mechanical condition, the vehicle will be immediately placed out of service and the appropriate manager notified.
- Only qualified company vehicle mechanics or approved service facilities are permitted to perform maintenance on company vehicles.
- All vehicles will be operated, licensed and insured in accordance with applicable local, state and federal laws.
- All employees authorized to operate any company owned or leased vehicle will be included in the company random drug-testing program.
- All authorized employees must possess a valid state driver's license for the class vehicle authorized.
- Authorized employees must have a driving record at least equal to that required for maintaining a commercial driver's license.
- Drivers shall be appropriately assessed, licensed and trained to operate the vehicle

DRIVER QUALIFICATION

The Company will have methods in place to:

- Ensure that background checks and MVR's (Motor Vehicle Record) checks are conducted when applicable.
- Ensure when a driver receives a violation(s) they communicate it to The Company.
- Ensure that all drivers will have a current medical assessment on file.

DRIVING SAFELY

- Drivers shall not operate a motor vehicle while under the influence of alcohol, illegal drugs, or prescription or over-the-counter medications that might impair their driving skills.

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- Loads shall be secure and shall not exceed the manufacturer's specifications and legal limits for the vehicle.
- The vehicle shall be used for its purpose.
- Only hands-free cell phones may be used by drivers while the vehicle is in motion.
- Drivers shall not manipulate radios or other equipment which may cause distraction while driving.
- Drivers shall not exceed the posted speed limit and shall maintain a safe distance between other vehicles at all times.

STARTING

- Conduct pre-use inspection.
- Seatbelts shall be worn by all occupants at all times when the vehicle is in motion.
- Adjust seat & mirrors before starting vehicle.
- Allow a 15 second warm up time.
- Check for warning lights.

DRIVING

- Do not drive if drowsy.
- Think ahead - anticipate hazards.
- Don't trust the other driver to drive properly.
- Don't speed or tailgate.
- Drive slower in hazardous conditions or hazardous areas.
- Pass only in safe areas and when excessive speed is not required.
- No loose articles on floor.
- Do not read, write, apply make-up, drink, eat or use a phone while driving.
- Stay at least four seconds behind the vehicle ahead.
- Do not stop for hitchhikers or to provide roadside assistance.

BACKING

- Back slowly & be ready to stop
- Do not back up if anyone is in path of vehicle travel.
- Check clearances.
- Don't assume people see you.
- Getting out & check if you cannot see from the driver's seat.

STOPPING

- Park only in proper areas, not roadsides.
- Use warning flashers & raise hood if vehicle becomes disabled.

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ACCIDENTS

Authorized drivers will report any collision or traffic violation while driving on company duties to the appropriate personnel.

- Do not admit responsibility.
- Notify your company and law enforcement as soon as possible.
- Cooperate with any law enforcement officers.
- Move the vehicle only at the direction of a law enforcement officer.
- Fill out all sections of the accident report in the glove box.
- Do not sign any forms unless required by a law enforcement officer.
- At the scene get the following information:
 - Investigating officer name and law enforcement agency,
 - Make, Model & License Plate number of other vehicles,
 - Names, addresses, and phone numbers of all witnesses,
 - Name, address, & license of other drivers
 - Photos of accident using camera in glove box of:
 - All 4 sides of all vehicles,
 - Roads and intersection at the scene,
 - Interior of all vehicles - seating & floor areas.

VEHICLE INSPECTIONS

Driver Inspections

Prior to each first daily use the driver shall inspect the vehicle for proper operation of the following safety features, as applicable:

- Horn
- Backup warning
- Head, tail & signal lights
- Windshield wipers
- Tire inflation (visual check)
- Brakes
- Steering control
- Mirrors
- No operational warning lights
- Accident kit in glove compartment
- Fire extinguisher (light trucks & vans)
- Broken glass

Mechanical Inspections

Every company vehicle will be inspected by a qualified vehicle mechanics at least every 3 months. Vehicles shall be maintained in safe working order. Inspection & maintenance points include:

- Road test
- Visual inspection of brake system - wheel removal required
- Fluid system levels & visual inspection
- Brake pad wear
- Belts & hoses
- Battery condition
- Filter replacement
- Lubrication
- Oil change
- Emissions systems visual inspection
- Tire tread

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Electrical Safety

PURPOSE

The purpose of this Electrical Safety Policy is to outline the safe use of electrical equipment, including tools and appliances at **RUDTUK**; hereafter referred to as "The Company."

The goal of this policy is to prevent electrically related injuries and property damage. Since electricity and electrical related injuries and deaths are a reality, this program shall be followed at all times by all personnel except when to do so would place themselves or others in harm's way.

RESPONSIBILITIES

Safety Coordinator

- To ensure that this Electrical Safety Policy is enforce.
- Shall ensure that provisions and procedures are in place for the protection of employees from external hazards including but not limited to pedestrians, vehicles and other barriers and by use of the pre-entry checklist verifying that conditions in the permit space are acceptable for entry during its duration.

Supervisor/Foreman

- Shall provide training for qualified and non-qualified employees
- Shall conduct inspections to identify electrical safety deficiencies
- Guard and correct all electrical deficiencies as soon as reasonably possible
- Shall ensure that all new electrical installations meet codes and regulations

Personnel

- Shall report electrical deficiencies as soon as reasonably possible
- Shall not work on electrical equipment unless authorized and trained
- Properly inspect all electrical equipment prior to use

POLICY

Safe work practices must be followed by all personnel of The Company to prevent electric shock or other injuries resulting from direct or indirect electrical contact, when work is performed near or on equipment or circuits which are or may be energized. Specific safe work practices shall be consistent with the nature and extent of the associated electrical hazards. The content of this Electrical Safety Policy set forth in accordance with OSHA Subpart S (electrical) [29 CFR 1910.331 through 29 CFR 1910.335](#).

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This program covers the service and maintenance of all machines and equipment which have not been placed in an electrically safe working condition and the installation and or removal of main disconnect switches on bus ducts. Conductors and parts of electric equipment that have been de-energized but have not been locked out or tagged shall be treated as energized (live) parts.

Any machine or equipment which has not been shut down per our lockout tagout procedures will **not** be considered to be electrically safe.

REQUIERMENTS FOR SAFETY RELATED POSITIONS

- Employees who face a risk of electric shock but who are not qualified persons shall be trained and familiar with electrically related safety practices.
- Employees shall be trained in safety related work practices that pertain to their respective job assignments.
- Employees will be trained on safe Clearance Distances.

The provisions of these procedures cover electrical safety-related work practices for both qualified persons (those who have training in avoiding the electrical hazards of working on or near exposed-energized parts) and unqualified persons (those with little or no such training) working on, near, or with the following installations:

Premises Wiring - Installations of electric conductors and equipment within or on buildings or other structures, and on other premises such as yards, parking, and other lots, and industrial substations.

Wiring for Connections to Supply - Installations of conductors that connect to the supply of electricity.

Other Wiring - Installations of other outside conductors on the premises.

Optical Fiber Cable - Installations of optical fiber cable where such installations are made along with electric conductors.

Bus Duct Switches - Installation and removal of Bus Duct Switches on energized busses.

Qualified Persons - (i.e., those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
- The skills and techniques necessary to determine the nominal voltage of exposed live parts.

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Safe work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts when work is performed near or on equipment or circuits which are or may be energized.

TRAINING

The training requirements contained in this document apply to employees who face a risk of shock that is not reduced to a safe level by the installation as required by the National Electrical Code and [29 CFR 1910 Subpart S](#), Electrical. Each affected employee must be trained prior to initial assignment, prior to a change in initial assignment duties, if a new hazard has been created or special deviations have occurred.

- Other employees who also may reasonably be expected to face comparable risk of injury due to electric shock or other electrical hazards must also be trained.
- Employees who are covered by the scope this policy, but who are not qualified persons shall also be trained in and familiar with any electrically related safety practices not specifically addressed but which are necessary for their safety.
- The training required shall be of the classroom or on-the-job type (preferably both). The degree of training provided shall be determined by the risk to the employee.
- Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, if new hazard has been created or special deviations have occurred.
- The training record shall include employee name, trainer signature/initials and dates of training. Training records must be made available to employees and their authorized representative(s).
- Electrical engineers, electronic technicians, electricians, mechanics and personnel who may perform maintenance and or repair type tasks.

Safe work practices must be used when necessary to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits which are or may be energized. The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

DE-ENERGIZED PARTS

Live parts to which an employee may be exposed shall be de-energized before the employee works on or near them, unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be de-energized if there will not be increased exposure to electrical burns or to explosion due to electric arcs.

ENERGIZED PARTS

If the exposed live parts are not de-energized, (i.e., for reasons of increased or additional hazards or infeasibility), other safety-related work practices shall be used to protect employees who may be exposed to the electrical hazards involved. Such work practices shall protect employees against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object. When working on energized parts, the appropriate PPE shall be used.

While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized the circuits energizing the parts shall be locked out or tagged or both in accordance with the requirements of this paragraph in the following order.

- 1) Procedures shall be in place before equipment may be de-energized.
- 2) Circuits and equipment to be worked on shall be disconnected from all electrical energy sources.
- 3) Stored electrical energy, which poses a hazard to workers, shall be released.
- 4) Stored non-electrical energy in devices that could re-energize electric circuit parts shall be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.
- 5) A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed, except as provided below.
- 6) Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.

If a lock cannot be applied, or if the employer can demonstrate that tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock, a tag may be used without a lock.

A tag used without a lock as permitted above, shall be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Examples include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

A lock may be placed without a tag only under the following conditions:

- Only one circuit or piece of equipment is de-energized.
- The lockout period does not extend beyond the work shift.
- Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with this procedure.

Before any circuits or equipment can be considered and worked as de-energized:

- A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.

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- A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are de-energized.

Before circuits and equipment are re-energized, even temporarily, the following requirements shall be met, in the order given:

- A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
- Employees exposed to the hazards associated with re-energizing the circuit or equipment shall be warned to stay clear of circuits and equipment.
- Each lock and tag shall be removed by the employee who applied it or under his or her direct supervision. However, if the employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task provided that the employer ensures that the employee who applied the lock or tag is not available at the workplace and is aware that the lock or tag has been removed before he or she resumes work at that workplace.
- There shall be a visual determination that all employees are clear of the circuits and equipment.

This section applies to work performed on exposed live parts (involving either direct contact or contact by means of tools or materials) or near enough to them for employees to be exposed to any hazard they present.

ILLUMINATION

Employees may not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely.

- Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas which may contain energized parts.

CONDUCTIVE MATERIALS AND EQUIPMENT

Conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts or pipes) in areas with live parts, the hazard must be minimized by the use of insulation, guarding, or material handling techniques.

- Non-conductive fish tapes must be used when pulling wire through conduit that contains energized conductors or when entering an enclosure with exposed live parts.

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PORTABLE LADDERS

Portable ladders shall be at the non-conductive type (wood or fiberglass) if they are used where the employee or the ladder could contact exposed energized parts.

- In addition, all portable ladders shall have non-conductive side rails.

CONDUCTIVE APPAREL

Conductive articles of jewelry and clothing (such as bands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, or metal headgear) may not be worn if they might contact exposed energized parts, unless they are rendered non-conductive by covering, wrapping, or other insulating means.

HOUSEKEEPING DUTIES

Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided.

- Electrically conductive cleaning materials may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.

INTERLOCKS

Only a qualified person following the requirements of this section may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment. The interlock system shall be returned to its operable condition when this work is completed.

CONFINED OR ENCLOSED WORK SPACES

When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, the employer shall provide, and the employee shall use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like shall be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.

OVERHEAD LINES

Employees shall not work on, or near (within 12 feet) overhead lines. This 12-foot barrier includes any conductive object in that space. OSHA provides specific instructions regarding work on overhead lines. Refer to Subpart S – Electrical [29 CFR 1910.333\(c\) \(3\)](#) for more detail.

- When possible, power lines shall be de-energized and grounded or other protective measures shall be provided before work is started.
- Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm)

is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage.

BUS DUCT SWITCHES

For the purposes of installing or removing main disconnect switch on energized bus ducts, only designated persons are allowed to plug or unplug bus switches (see Maintenance Manager for approved electricians).

Employees installing or removing switches on energized bus ducts shall use the following PPE during the steps noted:

- Rubber gloves with leather protectors.
- Full face shield.
- Welding jacket.

Switch installation procedures:

- Remove fuses and place switch in off position.
- Install switch per manufacturer's instructions (PPE required).
- Lock and tag switch in off position.
- Connect load - verify safety of load circuit by checking resistance between phases and between phases to ground.
- Install fuses.
- Manually actuate switch to on position from floor using hot stick - DO NOT actuate switch from scissors lift or ladder.
- PPE must be worn when performing switch installation.

Switch removal procedures:

- Manually actuate switch to off position from floor using hot stick - DO NOT actuate switch from scissors lift or ladder.
- Lock and tag switch.
- Verify that there is no Voltage present on the switch.
- Remove fuses.
- Disconnect load - remove associated wiring and conduit.
- Remove switch from bus duct (PPE required).

PORTABLE ELECTRIC EQUIPMENT

This section applies to the use of cord and plug connected equipment, including flexible cord sets (extension cords).

Extension Cord Use

- Employees using extension cords (drop cords) to power tools and/or equipment

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- for the performance of construction, maintenance, repair or demolition shall use GFCI protection. This pertains to any part of the plant, both inside and outside.
- All extension cords must be grounding type, made with UL listed parts, and be in good physical condition.
- Extension cords may not be lengthened, or "repaired" with tape.
- Power outlet strips are for equipment needing surge protection (e.g., computers).
- Extension cords shall not be run through holes in walls, ceilings or floors.
- Extension cords may not be plugged into power strips. Power strips may not be connected to each other (i.e., "piggy-backed").
- An extension cord should not be run across high traffic areas or used in applications where potential damage to the cord might occur.
- The use of an extension cord must not create a trip hazard.
- Extension cords shall not be attached to building surfaces or used in lieu of fixed wiring of a structure.
- Extension cords shall not be run through doorways or windows, or concealed behind walls, ceilings or floors.

Handling

Portable equipment shall be handled in a manner, which will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

Visual Inspection

Portable cord-and-plug connected equipment and flexible cord sets (extension cords) shall be visually inspected before use on any shift for external defects and for evidence of possible internal damage. Cord and plug-connected equipment and extension cords which remain connected once they are put in place and are not exposed to damage need not be visually inspected until they are relocated.

Defective or damaged items shall be removed from service until repaired.

GROUNDING TYPE EQUIPMENT

A flexible cord used with grounding-type equipment shall contain an equipment-grounding conductor.

- Attachment plugs and receptacles may not be connected or altered in a manner which would prevent proper continuity of the equipment grounding conductor at the point where plugs are attached to receptacles. Additionally, these devices may not be altered to allow the grounding pole of a plug to be inserted into slots intended for connection to the current-carrying conductors.
- Adapters (i.e., "cheaters") that interrupt the continuity of the equipment grounding connection may not be used.

Conductive Work Locations

Portable electric equipment and flexible cords used in highly conductive work locations (such as those inundated with water or other conductive liquids), or in job locations where employees are likely to contact water or conductive liquids, shall be approved for those locations.

Connecting Attachment Plugs

Employees' hands may not be wet when plugging and unplugging flexible cords and cord and plug-connected equipment, if energized equipment is involved.

- Energized plug and receptacle connections may be handled only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee's hand.
- Locking-type connectors shall be properly secured after connection.

ELECTRIC POWER AND LIGHTING CIRCUITS

Routine Opening and Closing of Circuits

Load rated switches, circuit breakers, or other devices specifically designed as disconnecting means shall be used for the opening, reversing, or dosing of circuits under load conditions. Cable connector's not of the load-break type, fuses, terminal lugs, and cable splice connections may not be used for such purposes, except in an emergency.

Re-closing Circuits After Protective Device Operation

After a circuit is de-energized by a circuit protective device, the circuit may not be manually re-energized until it has been determined that the equipment and circuit can be safely energized. The repetitive manual re-closing of circuit breakers or re-energizing circuits through replaced fuses is prohibited.

***Note:** Circuit breakers or fuses can only be energized after an overload condition has been determined. If a fault condition exists, the circuit must be tested and determined safe before the circuit can be energized. Circuit breakers can be reset, however repetitive reclosing is prohibited. The problem should be traced to the root cause if a circuit breaker trips twice in succession.

OVERCURRENT PROTECTION MODIFICATION

Overcurrent protection of circuits and conductors may not be modified, even on a temporary basis, beyond that allowed in the installation safety requirements for overcurrent protection.

TEST INSTRUMENTS AND EQUIPMENT

Only qualified persons may perform testing work on electric circuits or equipment that have not been de-energized. Such persons shall be made familiar with the use of special precautionary techniques, PPE, insulating and shielding materials and insulated tools.

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Visual Inspection

Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before the equipment is used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until necessary repairs and tests to render the equipment safe have been made.

Rating of Equipment

Test instruments and equipment and their accessories shall be rated for the circuits and equipment to which they will be connected and shall be designed for the environment in which they will be used.

OCCASIONAL USE OF IGNITABLE AND FLAMMABLE MATERIALS

Where flammable materials are present only occasionally, electric equipment capable of igniting them shall not be used, unless measures are taken to prevent hazardous conditions from developing.

SAFE GUARD FOR PERSONEL AND EQUIPMENT

Personal Protection Equipment

Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.

- Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by [29 CFR 1910.137](#).
- If the insulating capability of protective equipment may be subject to damage during use, the insulating material shall be protected. (For example, an outer covering of leather is sometimes used for the protection of rubber insulating material.)
- Employees shall wear non-conductive head protection wherever there is a danger of head injury from electric shock or bumps due to contact with exposed energized parts.
- Employees shall wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.

When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected.

- Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the fuse terminals are energized.
- Ropes and hand lines used near exposed energized parts shall be nonconductive.

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- Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically-related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with live parts.
- Protective shields, protective barriers or insulating materials as necessary shall be provided.

Cabinet doors and electrical enclosures should be kept closed. If, however, this is not possible due to the conditions which follow, additional precautions must be taken to minimize the extent of the hazard.

This Section Covers Situations Where:

- Energized equipment is exposed and must be left unattended.
- The scope of the energized equipment is so large that the person working cannot monitor it.
- The equipment cannot otherwise be guarded against accidental intrusion by a passerby.

ALERTING TECHNIQUES

The following alerting techniques shall be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts:

- **Safety signs**, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards, which may endanger them, as required.
- **Barricades** shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to uninsulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard.
- **Attendants** - If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect

All safety-related work practices shall be employed to prevent electric shock or electrical contacts, when work is performed near or on equipment or circuits which are or may be energized. Live parts shall be de-energized before the employee works on them unless it can be established that de-energizing introduces additional or increased hazards or is not feasible due to design of equipment or operational limitations. If exposed live parts are not de-energized for the above reasons, other safety practices shall be used to protect employees.

WORKING ON OR NEAR EXPOSED DE-ENERGIZED PARTS

Application

This applies to work on exposed de-energized parts or near enough to them to expose employees to any electrical hazard present. Conductors and parts of electric equipment that have been de-energized but have not been locked out or tagged shall be treated as energized.

LOCKOUT AND TAGGING

While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized, the circuits shall be locked out or tagged or both.

Note: Lockout and tagging that comply with paragraphs (c) through (f) of 1910.147 (Lockout and Tagging Standard) will comply with these requirements provided:

- The procedures address electrical hazards
- Stored non-electrical energy that could re-energize electrical circuits shall be effectively blocked or relieved
- A qualified person shall use test equipment (volt-ohm meter, etc.) and shall verify that the circuit and equipment are de-energized. If the circuit is over 600 volts, the test equipment shall be checked for proper operation immediately before and immediately after this test.

PROCEDURES

These written procedures shall be available for inspection by employees and by the Commissioner of Labor or authorized representatives.

DE-ENERGIZING EQUIPMENT

Safe procedures for de-energizing circuits and equipment shall be determined before circuits or equipment are de-energized. The circuits and equipment to be worked on shall be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks may not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.

- Stored electric energy which might endanger personnel shall be released. Capacitors shall be discharged and high capacitance elements shall be short-circuited and grounded, if the stored electric energy might endanger personnel.
- Stored non-electrical energy in devices that could re-energize electric circuit parts shall be blocked or relieved so that the circuit parts could not be accidentally energized.

APPLICATION OF LOCKS AND TAGS

A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed, except as provided in paragraphs C and E below.

- The lock shall be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools, (bolt cutter, etc.).
- Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.
- If a lock cannot be applied, or tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock, a tag may be used without a lock.
- A tag used without a lock, as permitted by paragraph C above, shall be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Examples of additional safety measures include the removal of a fuse, blocking a controlling switch, or opening an extra disconnect.
- A lock may be placed without a tag only under the following conditions:
 - Only one circuit or piece of equipment is de-energizing, and
 - The lockout period does not extend beyond the work shift, and
 - Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with this procedure.

Verification of De-energizing Condition

The requirements of this paragraph shall be met before any circuits or equipment can be worked as de-energizing.

- A qualified person shall operate the equipment controls or otherwise verify that the equipment cannot be restarted.
- A qualified person shall use test equipment (volt-ohm meter, etc.) to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are de-energized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have been de-energized and presumed to be safe. If the circuit to be tested is over 600 volts, the test equipment shall be checked for proper operation immediately before and immediately after this test.

Re-energizing Equipment

These requirements shall be met, in the order given, before circuits or equipment are re-energized, even temporarily.

- A qualified person shall conduct tests and visual inspections to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.

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- Employees exposed to the hazards of re-energizing the circuit or equipment shall be warned to stay clear of circuits and equipment.
- Each lock and tag shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task provided that:
 - The employer ensures that the employee who applied the lock or tag is not available at the workplace, and
 - The employer ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.
- There shall be a visual determination that all employees are clear of all circuits and equipment.

Minimum approach distance to energized high power voltages lines for unqualified employees is 10 feet.

- Minimum approach distance for qualified employees shall be followed per [29 CFR 1910.333\(c\)\(3\)\(i\)](#) Qualified – Table S5 Selection and Use of Work Practices - Approach Distances for Qualified Employees – Alternating Current. Approach distances are 10' for 50kV plus 4" for every additional 10k.
- Qualified Employees MUST ADHERE to the approach distances set forth in table S5 of [CFR 1910.333 \(below\)](#).

Voltage Range (phase to phase)	Minimum Approach Distance
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm)
Over 750V, not over 2kV	1 ft. 6 in. (46 cm)
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm)
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm)
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm)
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm)
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm)

When an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

- For voltages to ground 50kV or below 10 feet (305 cm)
- For voltages to ground over 50kV 10 feet (305 cm)
- 4 inches (10 cm) for every 10kV over 50kV.

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Emergency Action Plan

PURPOSE

The purpose of the **RUDTUK** Emergency Action Plan is to comply with the Occupational Safety and Health Administration's (OSHA) Emergency Action Plan Standard, [29 CFR 1910.38](#), and to prepare employees for dealing with emergency situations. This plan is designed to minimize injury and loss of human life and company resources by training employees, procuring and maintaining necessary equipment, and assigning responsibilities. This plan applies to all emergencies that may reasonably be expected to occur at **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Emergency Plan Manager

The Emergency Plan Manager shall manage the Emergency Action Plan for **RUDTUK**, hereafter referred to as "The Company." The Emergency Plan Manager shall also maintain all training records pertaining to this plan. The plan manager is responsible for scheduling routine tests of The Company Emergency notification system with the appropriate authorities.

The Emergency Plan Manager shall also coordinate with local public resources, such as fire department and emergency medical personnel, to ensure that they are prepared to respond as detailed in this plan.

Emergency Plan Coordinators

The Company Emergency Plan Coordinators are as follows:

Bldg. Number/ Section/Dept.	Primary Name and Position	Primary Phone #
HSE	HSE Manager	HSEReporting@rigup.com

The Emergency Plan Coordinators are responsible for instituting the procedures in this plan in their designated areas in the event of an emergency. (Note: Coordinators may also be given the responsibility of accounting for employees/visitors after an evacuation has occurred.)

The following individuals shall be responsible for assisting employees who have disabilities or who do not speak English during evacuation:

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Bldg. Number / Section / Dept.	Name of Person Requiring Assistance	Phone #	Assigned Assistant's Name and Position	Assistant's Phone #
HR				

Management

The Company will provide adequate controls and equipment that, when used properly, will minimize or eliminate risk of injury to employees in the event of an emergency.

The Company management will ensure proper adherence to this plan through regular review.

Supervisors

Supervisors shall themselves follow and ensure that their employees are trained in the procedures outlined in this plan.

Employees

Employees are responsible for following the procedures described in this plan.

Contractors

Contract employees are responsible for complying with this plan and shall be provided the training described herein by Safety Coordinator.

POLICY

❖ **Employees are not to perform rescue or medical duties, under any circumstances.**

The Company shall keep this written emergency action plan in the workplace, and it will be available to employees for review.

REPORTING FIRE AND EMERGENCY SITUATIONS

All fires and emergency situations will be reported as soon as possible to HSE Manager or other designated responsible person(s) by one of the following means:

- Verbally as soon as possible during normal work hours; or
- By telephone if after normal work hours or on weekends.

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To eliminate confusion and the possibility of false alarms, only HSE Manager or other designated responsible person(s) is/are authorized to contact the appropriate community emergency response personnel. The telephone numbers and contact information for the emergency response personnel for **RUDTUK** are:

1. Fire: 911
2. Police/Sheriff: 911
3. Ambulance/EMS: 911

Under no circumstances shall an employee attempt to fight a fire that has passed the incipient stage (that which can be put out with a fire extinguisher), nor shall any employee attempt to enter a burning building to conduct search and rescue. These actions shall be left to emergency services professionals who have the necessary training, equipment, and experience (such as the fire department or emergency medical professionals). Untrained individuals may endanger themselves and/or those they are trying to rescue.

The alarm system shall be distinctive and recognizable as a signal to evacuate the work area or perform actions designated under the emergency action plan.

Informing The Company Employees of Fires and Emergency Situations

In the event of a fire or emergency situation, HSE Manager or other designated responsible person(s) shall ensure that all employees are notified as soon as possible using the building alarm system (which includes both audible and visual alarms 24 hours a day). HSE Manager or other designated responsible person(s) shall provide special instructions to all employees via the public address system.

If a fire or emergency situation occurs after normal business hours, HSE Manager or other designated responsible person(s) shall contact all employees not on shift of future work status, depending on the nature of the situation.

EMERGENCY CONTACT INFORMATION

HSE Manager or other designated responsible person(s) shall maintain a list of all employees' personal emergency contact information and shall keep the list in Designated Area for easy access in the event of an emergency. In addition, the name or job title of every employee who may be contacted by employees who need more information about the plan, or an explanation of their duties shall be made available to all personnel and posted at worksites.

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EVACUATION ROUTES

Emergency evacuation escape route plans are posted in Designated Areas throughout The Company. In the event that a fire/emergency alarm is sounded or instructions for evacuation are given by Safety Coordinator, all employees (except those noted in Part III.F of this plan) shall immediately exit the building(s) at the nearest exits as shown in the escape route plans and shall meet as soon as possible at the Designated Assembly Area. Employees with offices shall close the doors (unlocked) as they exit the area.

Mobility impaired employees and their assigned assistants will gather at the Designated Area within the building to ensure safe evacuation in the pre-determined fashion.

SECURING PROPERTY AND EQUIPMENT

In the event that evacuation of the premises is necessary, some items may need to be secured to prevent further detriment to the facility and personnel on hand (such as securing confidential/irreplaceable records or shutting down equipment to prevent release of hazardous materials). Only the following individuals may remain in the building for the prescribed amount of time to secure the property and equipment to which they have been assigned

Name	Property or Equipment to Secure	Location of Property or Equipment	Estimated time to complete security process

All individuals remaining behind to shut down critical systems or utilities shall be capable of recognizing when to abandon the operation or task. Once the property and/or equipment has been secured, or the situation becomes too dangerous to remain, these individuals shall exit the building by the nearest escape route as soon as possible and meet the remainder of the employees at the Designated Assembly Area.

ADVANCED MEDICAL CARE

Under no circumstances shall an employee provide advanced medical care and treatment. These situations shall be left to emergency services professionals, or Designated Person(s), who have the necessary training, equipment, and experience. Untrained individuals may endanger themselves and/or those they are trying to assist.

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ACCOUNTING FOR EMPLOYEES/VISITORS AFTER EVACUATION

Once an evacuation has occurred, designated Responsible Person(s) shall account for each employee/visitor assigned to them at the Designated Assembly Area. Each employee is responsible for reporting to the appropriate Responsible Person(s) so an accurate head count can be made. All employee counts shall then be reported to the Emergency Action Plan Manager as soon as possible.

All employees must be accounted for after evacuation.

RE-ENTRY

Once the building has been evacuated, no one shall re-enter the building for any reason, except for designated and properly trained rescue personnel (such as fire department or emergency medical professionals). Untrained individuals may endanger themselves and/or those they are trying to rescue.

All employees shall remain at the Designated Assembly Area until the fire department or other emergency response agency notifies Responsible Person that either:

- The building is safe for re-entry, in which case personnel shall return to their workstations; or
- The building/assembly area is not safe, in which case personnel shall be instructed by a designated Responsible Person on how/when to vacate the premises.

SHELTERING IN PLACE

In the event that chemical, biological, or radiological contaminants are released into the environment in such quantity and/or proximity to The Company, authorities and/or Safety Coordinator or other designated responsible person(s) may determine that is safer to remain indoors rather than to evacuate employees. The Emergency Action Plan Manager shall announce Shelter in Place status by public address system or other means of immediate notification available at worksite.

- The designated Responsible Person(s) shall immediately close the business. If there are customers, clients, or visitors in the building, they shall be advised to stay in the building for their safety.
- Unless there is an imminent threat, employees, customers, clients, and visitors shall call their emergency contacts to let them know where they are and that they are safe.
- The designated Responsible Person(s) shall turn on call-forwarding or alternative telephone answering systems or services. The recording for voice mail or automated attendant shall be changed to indicate that the business is closed, and that staff and visitors will be remaining in the building until authorities advise that it is safe to leave.
- The designated Responsible Person(s) shall quickly lock exterior doors and close windows, air vents, and fireplace dampers. In addition, designated Responsible

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Person(s) familiar with the building's mechanical systems shall turn off, seal, or disable all fans, heating and air conditioning systems, and clothes dryers, especially those systems that automatically provide for exchange of inside air with outside air. If there is a danger of explosion, Responsible Person(s) shall close the window shades, blinds, or curtains.

Safety Coordinator or other designated responsible person(s) shall gather essential disaster supplies (i.e., nonperishable food, bottled water, battery-powered radios, first-aid supplies, flashlights, batteries, duct tape, plastic sheeting, and plastic garbage bags), which are stored at a pre-determined Designated Location, and shall take them to the Shelter In Place Location(s) within the building.

If possible, this designated area shall be an interior room(s) above the ground floor, with the fewest windows or vents. The room(s) should have adequate space for everyone to be able to sit. Avoid overcrowding by selecting several rooms if necessary. Large storage closets, utility rooms, pantries, copy and conference rooms without exterior windows will work well. Avoid selecting rooms with mechanical equipment like ventilation blowers or pipes. These should be avoided because this equipment may not be able to be sealed from the outdoors. It is ideal to have a hard-wired telephone in the room(s) you select. Cellular telephone equipment may be overwhelmed or damaged during an emergency. Call emergency contacts and have the telephone available if you need to report a life-threatening condition.

- All employees, customers, and visitors shall move immediately to the Shelter in Place Location(s) within the building. Responsible Person(s) shall seal all windows, doors, and vents with plastic sheeting and duct tape.
- Responsible Person shall write down the names of everyone in the room, and call the Designated emergency contact outside of the building to report who is in the room, and their affiliations with Company Name (employee, visitor, client, customer).
- Responsible Person(s) shall monitor telephone, radio, television and Internet reports for further instructions from authorities to determine when it is safe to leave the building.

SEVERE WEATHER

The Emergency Action Plan Manager shall announce severe weather alerts (such as tornados) by public address system or other means of immediate notification available at worksite. All employees shall immediately retreat to the Designated Area until the threat of severe weather has passed as communicated by the Emergency Action Plan Manager.

TRAINING

The Company will designate and train employees to assist in a safe and orderly evacuation of other employees.

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The Company will review the Emergency Action Plan with each employee covered by the plan:

- When the employee's responsibilities under the plan change;
- When the plan is changed

Employee Training

All employees shall receive instruction on this Emergency Action Plan as part of New Employee Orientation upon hire. Additional training shall be provided:

- When the plan is developed, or the employee is assigned initially to a job.
- When there are any changes to the plan and/or facility;
- When an employee's responsibilities change; and
- Annually as refresher training.

Items to be reviewed during the training include:

- Proper housekeeping;
- Fire prevention practices;
- Fire extinguisher locations, usage, and limitations;
- Threats, hazards, and protective actions;
- Means of reporting fires and other emergencies;
- Names of Emergency Action Plan Manager and Coordinators;
- Individual responsibilities;
- Alarm systems;
- Escape routes and procedures;
- Emergency shut-down procedures;
- Procedures for accounting for employees and visitors;
- Closing doors;
- Sheltering in place;
- Severe weather procedures; and
- Emergency Action Plan availability.

FIRE/EVACUATION DRILLS

Fire/Evacuation drills shall be conducted at least annually and shall be conducted in coordination with local police and fire departments. Additional drills shall be conducted if physical properties of the business change, processes change, or as otherwise deemed necessary.

TRAINING RECORDS

Responsible Person shall document all training pertaining to this plan and shall maintain records at Designated Area.

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PLAN EVALUATION

This Emergency Action Plan shall be reviewed annually, or as needed if changes to the worksite are made, by Responsible Person. Following each fire drill, Responsible Management and Employee Representatives shall evaluate the drill for effectiveness and weaknesses in the plan and shall implement changes to improve it.

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Fall Protection and Falling Object Prevention/Protection

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding fall protection for **RUDTUK**; hereafter referred to as "The Company."

The hazards of potential falls at heights of 6 feet and above will be addressed in this document. This instruction describes a systematic approach that must be used to protect and prevent people from falling. This instruction also lists some of the most common fall hazards and provides recommendations and guidelines for selecting fall arrest systems.

Reference: OSHA [1926.500-503](#), [1926.502\(j\)](#)

RESPONSIBILITIES

Many workers are injured or killed from falls each year, and it is the policy of The Company to provide a healthy work environment for its employees. Therefore, The Company management commits the necessary resources and time to ensure that all persons on worksites are protected from injury and illness hazards. Management staff at The Company, including the executive team, will lead in the design, implementation and continuous monitoring and improvement of the site's safety and health activities.

The Company Safety Officer is the HSE Manager. They are responsible for the administration of this program and has full authority to make necessary decisions to ensure success of the program. All company employees are responsible for safety at all times. The Company has expressly authorized this person to halt any company operation where there is danger of serious personal injury.

The fall protection plan shall be prepared by a qualified person for the specified work site.

Management shall perform annual reviews of this safety policy and any corresponding training programs/records to ensure that all workers are trained in the awareness and avoidance of unsafe acts and situations surrounding the use and or exposure of fall protection.

Contractor Responsibilities

In addition to complying with the fall protection requirements that apply to all company employees, each contractor who is retained to perform operations that involve fall protection will:

- Obtain any available information regarding fall hazards and protective measures from The Company.

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- Coordinate fall protection operations with The Company, when both company personnel and contractor personnel will be working in or near recognized fall hazard locations.
- Inform The Company of the fall protection program that the contractor will follow and of any hazards confronted or created in conducting operations involving fall protection within company owned facilities through a debriefing immediately prior to the operation.

It will remain the duty of The Company's active management team to ensure that all fall prevention equipment is properly maintained and used by trained personnel.

Employees and personnel of The Company, including part-time and temporary labor, shall follow this written health and safety policy to ensure a safe work environment for all.

Competent Person – one who is capable of identifying existing and predictable hazards in the surrounding or working conditions which are unsanitary, hazardous or dangerous to personnel, and who has authorization to take prompt corrective measures to eliminate them.

POLICY

Fall protection is required whenever employees are potentially exposed to falls from heights that exceed applicable regulatory thresholds. Guard rails, safety nets, or personal or fall arrest systems should be used.

The Company employees will adhere to the fall protection standards set for below depending upon which job function they are performing:

General Industry [1910.23\(b\)](#) - Protection for wall openings and holes. Every wall opening from which there is a drop of more than 4 feet shall be guarded.

Construction Industry [1926.501\(b\)\(1\)](#) - Unprotected sides and edges. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet (1.8 m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

Marine Terminals [1917.112\(b\)\(1\)](#) - Guardrails shall be provided at locations where employees are exposed to floor or wall openings or waterside edges, including bridges or gangway-like structures leading to pilings or vessel mooring or berthing installations, which present a hazard of falling more than 4 feet (1.22 m) or into the water.

Shipyard Industry [1915.73\(d\)](#) - When employees are exposed to unguarded edges of decks, platforms, flats, and similar flat surfaces, more than 5 feet above a solid surface, the edges shall be guarded by adequate guardrails.

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Steel Erection 1926.760(a)(1) - Each employee engaged in a steel erection activity who is on a walking/working surface with an unprotected side or edge more than 15 feet (4.6 m) above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.

*The fall protection plan shall be prepared by a qualified person for each specific work site.

When conventional fall protection is not used these locations will be identified and classified as controlled access zones.

Where no other alternate methods have been implemented, a safety monitoring system will be implemented.

A Competent Person will be assigned to:

- Recognize fall hazards
- Warn employees if they are unaware of a fall hazard or is acting in an unsafe manner
- Be on same working surface and in visual sight
- Stay close enough for verbal communication
- Not have other assignments that would take monitor' s attention from the monitoring function

All accidents and serious incidents (near accidents) shall be investigated, implementing changes to the fall protection plan as necessary.

When purchasing equipment and raw material for use in fall protection systems applicable ANSI and ASTM requirements will be met.

The Company will provide for prompt rescue of employees in the event of a fall or shall assure the employees - are able to rescue themselves.

The workplace shall be assessed before each assigned job for potential fall hazards. Proper fall arrest equipment will be used for jobs requiring fall protection when elimination of the hazard(s) is not possible. The Company will evaluate the facilities by department to determine fall hazards. This preliminary evaluation will detail the required steps for protecting employees from fall hazards.

TRAINING

The Company shall provide a training program for each employee who may be exposed to fall hazards, or who may have the likelihood of exposure to this risk. Training shall enable each employee to recognize the hazards of falling and shall train each employee in the procedure to follow to minimize all associated falling hazards.

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The Company will have written certification records showing the following:

- Who was trained, when, dates of training?
- Signature of person providing training and dates employer determined training was deemed adequate.

The Company will provide re-training when the following are noted, occur or observed:

- Deficiencies in training
- Work place changes
- Fall protection systems or equipment changes that render previous training obsolete

CLIENT REQUIREMENT

A training program shall be provided for all employees who will be exposed to fall hazards in the work area and will be conducted by competent personnel. The program will include but will not be limited to:

- A description of fall hazards in the work area
- Procedures for using fall prevention and protection systems
- Equipment limitations
- The elements encompassed in total fall distance
- Prevention, control and fall arrest systems
- Inspection and storage procedures for the equipment

Generally, workers will be trained to recognize the hazards of falling from elevations and to avoid falls from grade level to lower levels through holes or openings in walking/working surfaces. Training programs will include prevention, control and fall arrest systems. It must be ensured that appropriate fall arrest systems are installed, and that employees know how to use them before beginning any work that requires fall protection.

INITIAL TRAINING

Training will be conducted prior to job assignment. This employer will provide training to ensure that the purpose, function, and proper use of fall protection is understood by employees and that the knowledge and skills required for the safe application and usage is acquired by employees. This standard practice instruction will be provided to and read by all employees receiving training. The training will include, as a minimum the following:

- Types of fall protection equipment appropriate for use.
- Recognition of applicable fall hazards associated with the work to be completed and the locations of such.
- Load determination and balancing requirements.
- Procedures for removal of protection devices from service for repair or replacement.

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- All other employees whose work operations are or may be in an area where protection devices fall may be utilized, will be instructed to an awareness level concerning hazards associated with fall protection operations.
- Fall protection equipment identification. Fall protection equipment having identification numbers will be checked for legibility. Fall protection equipment having illegible identification markings will be turned in to the supervisor for inspection.
- Equipment maintenance and inspection requirements.
- Equipment donning and doffing procedures.
- Equipment strengths and limitations.

CERTIFICATION TRAINING

This employer will certify that employee training has been accomplished and is being kept up to date. The certification will contain each employee's name and dates of training. Training will be accomplished by competent personnel.

REFRESHER TRAINING

This standard practice instruction will be provided to and read by all employees receiving refresher training. The training content will be identical to initial training. Refresher training will be conducted on a semi-annual basis or when the following conditions are met, whichever event occurs sooner.

Retraining will be provided for all authorized and affected employees whenever (and prior to) a change in their job assignments, a change in the type of fall protection equipment used, or when a known hazard is added to the work environment which affects the fall protection program.

Additional retraining will also be conducted whenever a periodic inspection reveals, or whenever this employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of fall protection equipment or procedures.

Whenever a fall protection procedure fails. The retraining will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.

Certification: The Company will certify that employee training has been accomplished and being kept up to date. The certification will contain each employee's name and dates of training. Training will be accomplished by competent personnel.

FALL PREVENTION

Control Procedures Development. Once a facility evaluation has been accomplished, procedures will be developed, documented and utilized for the control of potential fall hazards. Fall

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prevention plans will be designed by company competent individuals or other competent personnel. Company engineers (where utilized) or other competent personnel will be provided with any required specialized training to recognize fall hazards, to understand and address fall prevention techniques, and to become familiar with fall arrest equipment and procedures. It is critical that they consider fall protection design for the safety of operations where employees must work at elevated heights. Safety during access and egress from elevated work sites will also be considered. The following guidelines will be used when planning work at elevated heights:

- Involve the Safety Department early in the project planning/job planning so that they can recommend appropriate fall-protection measures and equipment.
- Involve qualified Engineers when load rating of anchorage points must be determined or is in doubt. Required training will be provided as necessary.
- Involve Engineering and Maintenance when anchorage points must be installed.
- The Company and Engineering Departments will use the expertise of fall protection equipment manufacturers such as Rose Manufacturing Company., Miller Equipment Company, Research and Trading Company and DBI/SALA.
- The Company will be specific in dealing with fall hazards when developing contracts. Contractors will be required to provide a written fall protection program which describes the Contractors' fall protection policies and procedures when they will be working at elevated heights.

CONTROLLED ACCESS ZONES

If Fall Protection Plans are utilized, the following requirements need to be met:

- When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access.
 - When control lines are used, they shall be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting precast concrete members.
 - When erecting precast concrete members, the control line shall be erected not less than 6 feet (1.8 m) nor more than 60 feet (18 m) or half the length of the member being erected, whichever is less, from the leading edge.
 - The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
 - The control line shall be connected on each side to a guardrail system or wall.
- When used to control access to areas where overhand bricklaying and related work are taking place:
 - The controlled access zone shall be defined by a control line erected not less than 10 feet (3.1 m) nor more than 15 feet (4.5 m) from the working edge.
 - The control line shall extend for a distance sufficient for the controlled access zone to enclose all employees performing overhand bricklaying and related work at the working edge and shall be approximately parallel to the working edge.

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- Additional control lines shall be erected at each end to enclose the controlled access zone.
- Only employees engaged in overhand bricklaying or related work shall be permitted in the controlled access zone.
- Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
 - Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.
 - Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) [50 inches (1.3 m) when overhand bricklaying operations are being performed] from the walking/working surface.
 - Each line shall have a minimum breaking strength of 200 pounds (.88 kN).
- On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.
- On floors and roofs where guardrail systems are in place but need to be removed to allow overhand bricklaying work or leading-edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

PROTECTIVE MATERIALS AND EQUIPMENT

Appropriate fall protection devices will be provided for potential fall hazards. Selection of the equipment will be based on the fall protection evaluation. Evaluations will be conducted by the personnel authorized to evaluate fall protection requirements.

Fall Protection devices will be singularly identified; will be the only devices(s) used for controlling falls; will not be used for other purposes; and will meet the following requirements:

- Capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
- Anchor points will not deteriorate when located in corrosive environments such as areas where acid and alkali chemicals are handled and stored.
- Capable of withstanding the ultimate load of 5,000 lbs. for the maximum period of time that exposure is expected.
- Standardization within company facilities. Fall protection devices will be standardized whenever possible.

FALL PROTECTION SYSTEMS

When fall hazards cannot be eliminated through any other means, fall arrest systems will be used to control falls. Proper training on the use of fall arrest equipment is essential and will be provided prior to use.

Full Body Harness Systems

A full body harness system consists of a full-body harness, lanyard, energy shock absorber, and self-locking snap hook. Before using a full-body harness system, the supervisor and/or the user must address such issues as:

- Has the user been trained to recognize fall hazards and to use fall arrest systems properly?
- Are all components of the system compatible according to the manufacturer's instructions?
- Have appropriate anchorage points and attachment techniques been reviewed?
- Has free fall distance been considered so that a worker will not strike a lower surface or object before the fall is arrested?
- Have swing fall hazards been eliminated?
- Have safe methods to retrieve fallen workers been planned?
- Has the full-body harness and all of its components been inspected both before each use and on a regular semi-annual basis?
- Is any of the equipment, including lanyards, connectors, and lifelines, subject to such problems as welding damage, chemical corrosion, or sandblasting operations?

RETRACTABLE LIFELINES

- A retractable lifeline is a fall arrest device used in conjunction with other components of a fall arrest system. Retractable lifelines should be used by one person at a time.
- A properly inspected and maintained retractable lifeline, when correctly installed and used as part of the fall arrest system, automatically stops a person's descent in a short distance after the onset of an accidental fall.
- Retractable lifelines may be considered when working in areas such as on roofs and scaffolds, or in tanks, towers, vessels, and manholes. Also, retractable lifelines should be considered when climbing such equipment as vertical fixed ladders. Before using a retractable lifeline, the supervisor and/or the user must address the following questions:
 - Has the user been trained to use a retractable lifeline correctly?
 - Is the retractable lifeline being used in conjunction with a complete fall arrest system?
 - Is the equipment under a regular maintenance program?
 - Has the equipment been inspected within the last six months?

STANDARD HARNESS

Harnesses for general purpose work should be Class III, constructed with a sliding back D-ring. Standard harnesses are suitable for continuous fall protection while climbing, riding, or working on elevated personnel platforms. They are suitable for positioning, fall arrest, and the rescue and evacuation of people who are working at elevated heights.

INSPECTION AND MAINTANENCE

To ensure that fall protection systems are ready and able to perform their required tasks, a program of inspection and maintenance will be implemented and maintained. The following as a minimum, will comprise the basic requirements of the inspection and maintenance program:

- Equipment manufacturer's instructions will be incorporated into the inspection and preventive maintenance procedures.
- All fall protection equipment will be inspected prior to each use, and a documented inspection at intervals not to exceed 6 months, or in accordance with the manufacturer's guidelines.
- The user will inspect his/her equipment prior to each use and check the inspection date.
- Any fall protection equipment subjected to a fall or impact load will be removed from service immediately and inspected by a qualified person (sent back to the manufacturer).
- Check all equipment for mold, damage, wear, mildew, or distortion.
- Hardware should be free of cracks, sharp edges, or burns.
- Ensure that no straps are cut, broken, torn or scraped.
- Special situations such as radiation, electrical conductivity, and chemical effects will be considered.
- Equipment that is damaged or in need of maintenance will be tagged as unusable and **will not be stored** in the same area as serviceable equipment.
- A detailed inspection policy will be used for equipment stored for periods exceeding one month.
- Anchors and mountings will be inspected before each use by the user and supervisor for signs of damage.

Accident investigations shall be conducted to evaluate the fall protection plan for potential updates to practices, procedures or training in order to prevent reoccurrence.

MOST COMMON AND MOST DANGEROUS FALL HAZARDS

The tasks and situations listed below present inherent fall hazards. Give special attention to providing fall prevention and/or fall control for them, remembering that this attention is necessary in the design, engineering, planning, and execution stages of work. Supervisors will give special consideration to fall protection for the following tasks:

- Working from crane booms and tower cranes.
- Working on top of machinery and equipment, such as overhead cranes, furnaces, conveyors and presses.
- Other work that involves fall hazards, such as 'off-chutes' from main piping in duct work or boilers.
- Working on roofs, with deteriorating or unsupported sections and framing.
- Working over chemical tanks or open pits.

- Working from fixed or portable ladders or climbing systems.
- Performing work on water towers, product tanks, silos, pipe racks, presses, and floor pits.

DEFINITIONS

Anchorage

A secure point of attachment for lifelines, lanyards or deceleration devices.

Body belt

A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

Body harness

Straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

Competent person

A person who is capable of identifying hazardous or dangerous conditions in any personal fall arrest system or any component thereof, as well as in their application and use with related equipment.

Connector

A device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system.

Deceleration device

Any mechanism with a maximum length of 3.5 feet, such as a rope grab, rip stitch lanyard, tearing or deforming lanyards, self-retracting lifelines, etc. which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

Energy shock absorber

A device that limits shock-load forces on the body.

Failure

Load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

Fall arrest system

A system specifically designed to secure, suspend, or assist in retrieving a worker in or from a hazardous work area. The basic components of a fall arrest system include anchorage, anchorage connector, lanyard, shock absorber, harness, and self-locking snap hook.

Free fall

Means the act of falling before a personal fall arrest system begins to apply force to arrest the fall.

Free fall distance

Means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall (maximum of 6 feet). This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

Hole

A gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.

Lanyard

Flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline or anchorage.

Leading edge

The edge of a floor roof, or formwork for a floor or other walking/working surface which changes location as additional floor, roof, decking, or formwork sections are placed, formed or constructed. A leading edge is considered to be an unprotected side and edge during periods when it is not actively and continuously under construction.

Lifeline

A component consisting of a flexible line for connection to an anchorage at one end to hang vertically or for connection to anchorages at both ends to stretch horizontally and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Opening

A gap or void 30 inches, or more, high and 18 inches or wider, in a wall or partition, through which employees can fall to a lower level.

Personal fall arrest system

System used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline,

or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

Positioning device system

Body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

Qualified person

Recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project, or product.

Retractable lifeline

A fall arrest device that allows free travel without slack rope but locks instantly when a fall begins.

Rope grab

A deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

Safety-monitoring system

A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

Self-retracting lifeline/lanyard

a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Snap hook

A connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snap hooks are generally one of two types:

- The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or
- The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snap hook as part of personal fall arrest systems and positioning device systems is prohibited.

FALLING OBJECT PREVENTION/PROTECTION OSHA 1926.502(J)

Toe Board

A low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

The Company will ensure that Toe-boards, when used as falling object protection, will be erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below.

Any toe-board used by The Company must be capable of withstanding, without failure, a force of at least 50 pounds (222 N) applied in any downward or outward direction at any point along the toe-board.

Toe-boards shall be a minimum of 3 ½ inches (9cm) in vertical height from their top edge to the level of the walking/working surface. They shall have not more than 1/4-inch (0.6 cm) clearance above the walking/working surface. They shall be solid or have openings not over 1 inch (2.5 cm) in greatest dimension.

Guardrail Systems

Guardrail systems, when used as falling object protection, shall have all openings small enough to prevent passage of potential falling objects.

During the performance of overhead bricklaying and related work:

No materials or equipment except masonry and mortar shall be stored within 4 feet (1.2m) of the working edge.

- Excess mortar, broken or scattered masonry units, and all other materials and debris shall be kept clear from the work area by removal at regular intervals, to prevent injury from falling objects.

During the performance of roofing work:

- Materials which are piled, grouped, or stacked near a roof edge shall be stable and self-supporting.

Canopies

Canopies, when used as falling object protection, shall be strong enough to prevent collapse and to prevent penetration by any objects which may fall onto the canopy.

Walking/Working Surface

Any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel

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but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

Warning Line System

A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.

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**Fall Protection and Falling Objects
Prevention/Protection – US**

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Fire Protection Extinguishers

PURPOSE

The purpose of this document is to outline the Fire Protection Extinguishers Program for **RUDTUK**; hereafter referred to as "The Company." This policy applies to all sites, personnel and contractors; this policy must be followed at all times.

RESPONSIBILITIES

Management

- Ensure all fire prevention methods are established and enforced
- Ensure fire suppression systems such as sprinklers and extinguishers are periodically inspected and maintained to a high degree of working order
- Train supervisors to use fire extinguishers for incipient fires
- Train employees on evacuation routes and procedures

Supervisors

- Closely monitor the use of flammable materials and liquids
- Train assigned employees in the safe storage, use and handling of flammable materials
- Ensure flammable material storage areas are properly maintained

Employees

- Use, store and transfer flammable materials in accordance with provided training
- Do not mix flammable materials
- Immediately report violations of the Fire Safety Program

POLICY

The Company Fire Safety Plan has been developed to work in conjunction with company emergency plans and other safety programs. This includes reviewing all new building construction and renovations to ensure compliance with applicable state, local, and national fire and life safety standards. Fire prevention measures reduce the incidence of fires by eliminating opportunities for ignition of flammable materials.

TRAINING

Where The Company has provided portable fire extinguishers for employees use in the workplace. The Company also will provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved in incipient stage firefighting.

Training will be conducted prior to initial assignment and at least annually thereafter.

HAZARDS

Fire and explosion hazards can exist in almost any work area. Potential hazards include:

- Improper operation or maintenance of gas fired equipment
- Improper storage or use of flammable liquids
- Smoking in prohibited areas
- Accumulation of trash
- Unauthorized Hot Work operations

ELIMINATION OF IGNITION SOURCES

All nonessential ignition sources must be eliminated where flammable liquids are used or stored.

The following is a list of some of the more common potential ignition sources:

- Open flames, such as cutting and welding torches, furnaces, matches, and heaters- these sources should be kept away from flammable liquids operations. Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
- Chemical sources of ignition such as d.c. motors, switched, and circuit breakers- these sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
- Mechanical sparks- these sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
- Static sparks- these sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also, proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

REMOVAL OF INCOMPATIBLES

Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

CONTROL OF FLAMMABLE GASES

Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids also apply to flammable gases, other

properties such as toxicity, reactivity, and corrosivity also must be taken into account. Also, a gas that is flammable could produce toxic combustion products.

FIRE EXTINGUISHERS

A portable fire extinguisher is a "first aid" device and is very effective when used while the fire is small. The use of fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

CLASSIFICATION OF FIRES AND SELECTION OF EXTINGUISHERS

Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

- ❖ **Class A** fires involve materials such as wood, paper, and cloth which produce glowing embers or char.
- ❖ **Class B** fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids which must be vaporized for combustion to occur.
- ❖ **Class C** fires involve fires in live electrical equipment or in materials near electrically powered equipment.
- ❖ **Class D** fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.

Extinguishers will be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be protected, and other factors pertinent to the situation.

LOCATION AND MARKING OF EXTINGUISHERS

Extinguishers will be conspicuously located and readily accessible for immediate use in the event of fire. They will be located along normal paths of travel and egress. Wall recesses and/or flush-mounted cabinets will be used as extinguisher locations whenever possible.

Extinguishers will be clearly visible. In locations where, visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification.

If extinguishers intended for different classes of fire are located together, they will be conspicuously marked to ensure that the proper class extinguisher selection is made at the time

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of a fire. Extinguisher classification markings will be located on the front of the shell above or below the extinguisher nameplate. Markings will be of a size and form to be legible from a distance of 3 feet.

CONDITION

Portable extinguishers will be maintained in a fully charged and operable condition. They will be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit will be provided.

MOUNTING AND DISTRIBUTING OF EXTINGUISHERS

Extinguishers will be installed on hangers, brackets, in cabinets, or on shelves. Extinguishers having a gross weight not exceeding 40 pounds will be so installed that the top of the extinguisher is not more than 3-1/2 feet above the floor.

Extinguishers mounted in cabinets or wall recesses or set on shelves will be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made conspicuous by marking the cabinet or wall recess in a contrasting color which will distinguish it from the normal decor.

Extinguishers must be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. OSHA requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control faster than Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they must be distributed on the basis of appropriate patterns for Class A and B hazards.

INSPECTION AND MAINTENANCE

Once an extinguisher is selected, purchased, and installed, it is the responsibility of the Safety Officer to oversee the inspection, maintenance, and testing of fire extinguishers to ensure that they are in proper working condition and have not been tampered with or physically damaged.

The Company will assure that all portable fire extinguishers are subjected to monthly visual inspections and an annual maintenance check.

FIRE SAFETY INSPECTIONS AND HOUSEKEEPING

First line supervisors and Safety Committees are responsible for conducting work site surveys that include observations of compliance with the Fire Safety Program. These surveys should include observations of worksite safety and housekeeping issues and should specifically address proper

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storage of chemicals and supplies, unobstructed access to fire extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and that personnel are familiar with the plan.

EMERGENCY EXITS

Every exit will be clearly visible, or the route to it conspicuously identified in such a manner that every occupant of the building will readily know the direction of escape from any point. At no time will exits be blocked.

Any doorway or passageway which is not an exit, or access to an exit but which may be mistaken for an exit, will be identified by a sign reading "Not an Exit" or a sign indicating its actual use (i.e., "Storeroom"). Exits and accesses to exits will be marked by a readily visible sign. Each exit sign (other than internally illuminated signs) will be illuminated by a reliable light source providing not less than 5 foot-candles on the illuminated surface.

EMERGENCY PLANS FOR PERSONS WITH DISABILITIES

The first line supervisor is assigned the responsibility to assist Persons with Disabilities (PWD) under their supervision. An alternate assistant will be chosen by the supervisor. The role of the two assistants is to report to their assigned person, and to either assist in evacuation or assure that the PWD is removed from danger.

- Supervisors, alternates, and the person with a disability will be trained on available escape routes and methods.
- A list of persons with disabilities is kept in the office.
- Visitors who have disabilities will be assisted in a manner similar to that of company employees. The Host of the person with disabilities will assist in their evacuation.

EMERGENCIES INVOLVING FIRE

Fire Alarms

In the event of a fire emergency, a fire alarm will sound for the building.

Evacuation Routes and Plans

Each facility shall have an emergency evacuation plan. All emergency exits shall conform to NFPA standards.

Should evacuation be necessary, go to the nearest exit or stairway and proceed to an area of refuge outside the building. Most stairways are fire resistant and present barriers to smoke if the doors are kept closed.

Do not use elevators. Should the fire involve the control panel of the elevator or the electrical system of the building, power in the building may be cut and you could be trapped between

floors. Also, the elevator shaft can become a flue, lending itself to the passage and accumulation of hot gases and smoke generated by the fire.

Emergency Coordinators/Supervisors

Emergency Coordinators/Supervisors will be responsible for verifying personnel have evacuated from their assigned areas.

FIRE EMERGENCY PROCEDURES

If you discover a fire:

- Activate the nearest fire alarm.
- Notify your Supervisor and other occupants.

Fight the fire ONLY if:

- The fire department has been notified of the fire, AND
- The fire is small and confined to its area of origin, AND
- You have a way out and can fight the fire with your back to the exit, AND
- You have the proper extinguisher, in good working order, AND know how to use it.
- If you are not sure of your ability or the fire extinguisher's capacity to contain the fire, leave the area.

If you hear a fire alarm:

- Evacuate the area - Close windows, turn off gas jets, and close doors as you leave.
- Leave the building and move away from exits and out of the way of emergency operations.
- Assemble in a designated area.
- Report to the monitor so he/she can determine that all personnel have evacuated your area.
- Remain outside until competent authority states that it is safe to re-enter.

Evacuation Routes

- Learn at least two escape routes, and emergency exits from your area.
- Never use an elevator as part of your escape route.
- Learn to activate a fire alarm.
- Learn to recognize alarm sounds.
- Take an active part in fire evacuation drills.

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Fire Protection Extinguishers - US

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First Aid/CPR

PURPOSE

The purpose of this document is to outline the First Aid/CPR Program for **RUDTUK**; hereafter referred to as "The Company."

The objective of the First Aid Program is to ensure adequate supplies and properly trained personnel are available for employees and visitors of The Company should an injury occur. The Company will ensure that medical personnel are readily available for advice, consultation and emergency response. In the absence of a clinic or hospital near the workplace, a person or persons must be adequately trained to render first aid. First aid supplies shall be readily available at all locations. Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

SCOPE

This program is designed to provide prompt medical attention in the case of any injury or illness prior to commencement of any project.

The provisions of this Policy are applicable to all employees and those contracted to The Company. This Policy applies to all personnel who work with or whose job responsibilities require them to be familiar with the contents of this Policy.

As with all Company policies and procedures, should our client's policies or procedures be more stringent than The Company's, then the more stringent policy or procedure should be considered, subject to The Company's evaluation and written approval by The Company manager and as reasonably practicable, so long as it does not endanger the employee's life or health, nor endanger the environment or general public.

Management and the Health, Safety and Environmental (HSE) Coordinator will review and evaluate this Policy on an ongoing basis, or when operational changes within a facility occur that require revision. Effective implementation of this Policy requires support from all levels of Management within The Company. This written Policy shall be communicated to all personnel that are affected by it and supersedes any similar policy.

First aid kits shall consist of appropriate items which will be adequate for the environment in which they are used. For construction operations, items shall be stored in a weather proof container with individual sealed packages of each type of item.

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REFERENCES

Occupational Safety and Health Administration, Department of Labor; [29 CFR 1910.151](#).

TRAINING

First Aid providers shall be certified by the American Red Cross or an equivalent organization.

When locations are within the acceptable response time of outside providers of emergency services, The Company will rely on these professionals to provide emergency services in the workplace. However, The Company has elected to have employees trained to provide first aid and CPR and require them to perform these services as part of their job duties.

The Company locations that are not within a reasonable response time (those locations exceeding three to five minutes) of emergency first aid or medical services from an outside provider must have a sufficient number of trained employees to perform first aid and cardiopulmonary resuscitation (CPR). Those trained under the response time requirement must be expected and required as part of their job assignment to perform these services in the event of an emergency. In the absence of medical assistance that is reasonably accessible in terms of time and distance to the worksite, a person certified in first aid shall be readily available to assist injured employees.

All Drivers and Equipment Operators are required to be trained in basic first aid and CPR. This covers treatment of minor injuries and basic emergency procedures for more serious injuries or health problems.

Employees who may be required to render first aid in a respiratory emergency or who may be required to work as standby personnel during confined space jobs shall also be trained in CPR. All training shall be documented.

Training shall be conducted by a nationally accredited association (e.g., The American Red Cross, National Safety Council).

RESPONSIBILITIES

The Company management shall implement, support and enforce this program, and periodically review and evaluate its overall effectiveness, modifying it as appropriate.

The Company employees shall be familiar with and comply with the contents of this program.

Only those job designations listed in this section whose job duties require them to administer first aid or to respond to medical emergencies shall be covered under this program. For instance, employees who have been trained in CPR, but are not required to respond to medical emergencies

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or to administer first aid would do so as "Good Samaritans" only. ("Good Samaritans," however, should provide basic first aid and/or CPR to their level of training.)

It is the responsibility of the HSE Coordinator to conspicuously post emergency telephone numbers of a physician, hospital, ambulance and local authorities, and train all personnel on the location of the postings.

The employee has the responsibility as well as the authority to stop any job or task conducted in an unsafe manner and should immediately request Supervisor/HSE Coordinator involvement to rectify the issue. The employee's judgment call, when made in good faith and using good judgment, shall be considered commendable even though the conclusion of the investigation might be found to the contrary. However, if the judgment call was not made in good faith and using good judgment, or was found to be insincere, the employee may be subject to disciplinary action in accordance with this Policy.

Enforcement of this Policy is the responsibility of each and every employee of The Company. For any violation of this Policy, whether willful or through negligence, the Designated Person in Charge, Immediate Supervisor, HSE Coordinator and/or Company Manager shall have the responsibility as well as the authority to pursue corrective action in accordance with this Policy.

DEFINITIONS

Designated Basic First Aid Provider - Employees designated as First Aid Providers by management.

Exposure Incident -Refers to a specific exposure to the eye, mouth, other mucous membrane, non-intact skin or parenteral exposure to blood or other potentially infectious material that results from the performance of an employee's duties. A medical follow-up is required pursuant to an exposure incident.

Basic First Aid Provider - Employees who routinely work at remote locations where medical facilities are more than three to five (3 to 5) minutes away (emergency medical services).

Occupational Exposure - Refers to reasonably anticipated skin, eye, mucous membrane, or parenteral (i.e., puncture) contact with blood or other potentially infectious body fluids or materials that may result from the performance of an employee's duties. Personal protective equipment is required to be worn when a potential occupational exposure exists.

HAZARD DETERMINATION

- Any and all communicable diseases and bloodborne pathogens;
- Any hazards associated with the scene (e.g., water, electricity, traffic, etc.);
- Any hazards associated with the trauma (e.g., seizures, combativeness, etc.).

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ENGINEERING CONTROLS

If it is reasonably anticipated that employees will be exposed to blood or other potentially infectious materials while using first aid supplies, The Company will provide appropriate personal protective equipment (PPE) in compliance with the provisions of the Occupational Exposure to Bloodborne Pathogens standard, [29 CFR 1910.1030\(d\)\(3\)](#). This standard lists appropriate PPE for this type of exposure, such as gloves, gowns, face shields, masks and eye protection. Refer to The Company's and's Personal Protective Equipment Policy found in The Company's Health, Safety and Environmental Manual.

PROCEDURES

First aid kits will be maintained at each location and in each company vehicle. All kits will be checked at least once per month as a minimum by the HSE Coordinator or immediate supervisor. The kits will be replenished as necessary and will not be sent to an assignment in a depleted condition.

First aid kits shall be placed in a weatherproof container with individual sealed packages of each type of item and shall be checked by the employer before being sent out on each job and at least weekly on each job to ensure that the expended items are replaced.

Sufficient quantities relative to the size of the workforce will be maintained for minor emergencies such as cuts and skin abrasions.

Where the eyes or body of any employee may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body will be provided within the work area for immediate emergency use. This will include but is not limited to portable and fixed emergency eyewash stations.

Where installed, eyewash stations will be periodically inspected to ensure proper emergency operation.

Damaged or faulty equipment must be repaired immediately. When equipment is damaged, activities that might potentially require the use of the emergency stations must be ceased until repairs are made or a suitable temporary replacement emergency station must be installed.

All designated basic first aid and CPR providers shall comply with the provisions of The Company's Bloodborne Pathogens Program.

In the event of an incident

- Effective communication devices will be provided and available to workers at all times. This will allow workers to contact emergency medical care and transportation in the case of incident.

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- Effective equipment will be prepared for transportation or a communication device to contact the nearest healthcare facility.

CONTRACTOR AND/OR TEMPORARY EMPLOYEES

The provisions of this procedure apply to all contract and temporary employees of The Company. Contract and temporary employees shall be trained and designated as basic first aid and CPR providers and must provide current documentation.

DOCUMENTATION

Accurate records shall be maintained at all locations regarding personal injuries occurring at the workplace. Refer to The Company's policy on Accident/Incident Investigation and Reporting Procedures whenever first aid is required.

Accurate training records of all initial and refresher first aid and CPR courses will be maintained by the HSE Coordinator.

FORMS

A written record or First Aid Injury Log should be maintained of all supplies used from the first aid kit. The purpose of recording supplies as they are used is to track possible repetition of injuries or illnesses in the workplace that could possibly be prevented. The written record should contain the name of the injured, date, injured body part (i.e., finger, palm, etc.), treatment provided, and the materials used.

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First Aid/CPR - US

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Forklifts and Industrial Trucks

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding the use of Forklifts and Industrial Trucks for **RUDTUK**; hereafter referred to as "The Company."

The Company and its employees may not operate forklift/industrial truck devices at every jobsite, however, all employees who work on or around forklift equipment, whether as the primary contractor or as a sub-contractor on any work-site, shall adhere to the following health and safety policy and procedure. This program applies to all powered industrial trucks, hoists and lifting gear.

RESPONSIBILITIES

Management

- Provide adequate training in safe operation of all equipment used to move or access materials
- Provide equipment that is safe to operate
- Implement an "Out of Service" program for damaged equipment
- Not allow modification to equipment except those authorized in writing by the equipment manufacturer
- Establish safe operating rules and procedures

Supervisors

- Monitor safe operations of material handling equipment
- Ensure all equipment is safety checked daily
- Tag "Out of Service" any damaged equipment

Employees

- Operate only that equipment for which they have been specifically trained and authorized
- Conduct required daily pre-use inspections
- Report any equipment damage or missing safety gear
- Follow all safety rules and operating procedures

HAZARDS

- Falling loads
- Overloading of equipment
- Impact with equipment
- Piercing of containers
- Loading dock roll off

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- Chemical contact - battery acid
- Fires during refueling

HAZARD CONTROLS

- Control of equipment keys
- Authorized fueling and recharge areas
- Proper palletizing of material
- Marked travel lanes
- Equipment warning lights
- Seat belts
- Mounted fire extinguishers

PRE-QUALIFICATION

All candidates for Powered Industrial Truck (PIT) operators must meet the following basic requirements prior to starting initial or annual refresher training:

- Must have no adverse vision problems that cannot be corrected by glasses or contacts
- No adverse hearing loss that cannot be corrected with hearing aids
- No physical impairments that would impair safe operation of the PIT
- No neurological disorders that affect balance or consciousness
- Not taking any medication that affects perception, vision, or physical abilities

TRAINING

Training for Powered Industrial Truck (PIT) Operators shall be conducted by an experienced operator, selected by Management. All operational training shall be conducted under close supervision. All training and evaluation must be completed before an operator is permitted to use a Powered Industrial Truck (forklift, etc.) without continual and close supervision.

All employees are required to be trained and certified prior to operating each specific type of equipment.

Formal instruction includes lecture, discussion, interactive computer learning, videos, and written materials, Practical training involves instructor demonstrations and trainee exercises. Operator evaluation – critiques required.

Trainees may operate a powered industrial truck only:

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

TRAINING CONTENT

Training consists of a combination of formal instruction, practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

All trainers must have the knowledge and ability to teach and evaluate operators.

Initial Training: Powered industrial truck operators shall receive initial training in the following topics:

Truck-Related Training Topics

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

Workplace Related Topics

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

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Refresher Training and Evaluation

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

Mandatory refresher training shall be provided when unsafe operations are observed, after an accident, if operation of a different vehicle type and or changes in conditions occur.

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

- The operator has been observed to operate the vehicle in an unsafe manner;
- The operator has been involved in an accident or near-miss incident;
- The operator has received an evaluation that reveals that the operator is not operating the truck safely;
- The operator is assigned to drive a different type of truck;
- A condition in the workplace changes in a manner that could affect safe operation of the truck;
- Once every 3 years an evaluation will be conducted of each powered industrial truck operator's performance.

SAFE OPERATIONS PROCEDURES AND RULES

- Only authorized and trained personnel will operate PITs.
- All PITs will be equipped with a headache rack, fire extinguisher, rotating beacon, back-up alarm and seat belts. Seat belts will be worn at all times by the Operator.
- The operator will perform daily pre- and post-trip inspections.
- Any safety defects (such as hydraulic fluid leaks; defective brakes, steering, lights, or horn; and/or missing fire extinguisher, lights, seat belt, or back-up alarm) will be reported for immediate repair or have the PIT taken "Out of Service."
- Operators will follow the proper recharging or refueling safety procedures.
- Loads will be tilted back and carried no more than 6 inches from the ground. Loads that restrict the operator's vision will be transported backwards.
- PITs will travel no faster than 5 mph or faster than a normal walk.
- Hard hats will be worn by PIT Operators in high lift areas.
- Operator will sound horn and use extreme caution when meeting pedestrians, making turns and cornering.
- Passengers may not ride on any portion of a PIT. Only the operator will ride PITs. "NO PASSENGERS" decals will be affixed on all PITs.
- If PITs are used as a man lift, an appropriate man lift platform (cage with standard rails and toe-boards) will be used.
- Aisle will be maintained free from obstructions, marked and wide enough (six foot minimum) for vehicle operation.
- Lift capacity will be marked on all PITs. Operator will assure load does not exceed rated weight limits.

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- When un-attended, PITs will be turned off, forks lowered to the ground and parking brake applied.
- All PITs (with exception of pallet jacks) will be equipped with a multi-purpose dry chemical fire extinguisher. (Minimum rating; 2A:10B:C)
- Operators are instructed to report all accidents, regardless of fault and severity, to Management. Management will conduct an accident investigation.
- When loading rail cars and trailers, dock plates will be used. Operators will assure dock plates are in good condition and will store on edge when not in use.
- Rail cars and trailers shall be parked squarely to the loading area and have wheels chocked in place. Operators will follow established Docking/Un-Docking Procedures.

CHANGING AND CHARGING STORAGE BATTERIES

- Battery charging installations shall be located in areas designated for that purpose.
- Facilities shall be provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage by trucks, and for adequate ventilation for dispersal of fumes from gassing batteries.
- A conveyor, overhead hoist, or equivalent material handling equipment shall be provided for handling batteries.
- Reinstalled batteries shall be properly positioned and secured in the truck.
- A carboy tilter or siphon shall be provided for handling electrolyte.
- When charging batteries, acid shall be poured into water; water shall not be poured into acid.
- Trucks shall be properly positioned, and brake applied before attempting to change or charge batteries.
- Care shall be taken to assure that vent caps are functioning. The battery (or compartment) cover(s) shall be open to dissipate heat.
- Smoking is prohibited in the charging area.
- Precautions shall be taken to prevent open flames, sparks, or electric arcs in battery charging areas.
- Tools and other metallic objects shall be kept away from the top of uncovered batteries.

TRUCKS AND RAILROAD CARS

- The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness before they are driven onto.
- The brakes of highway trucks shall be set, and wheel chocks placed under the rear wheels to prevent the trucks from rolling while they are boarded with powered industrial trucks.
- Wheel stops or other recognized positive protection shall be provided to prevent railroad cars from moving during loading or unloading operations.

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- Fixed jacks may be necessary to support a semitrailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.
- Positive protection shall be provided to prevent railroad cars from being moved while dock boards or bridge plates are in position.

OPERATIONS

- If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.
- Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.
- No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
- Unauthorized personnel shall not be permitted to ride on powered industrial trucks.
- Arms or Legs shall not be placed between the uprights of the mast or outside the running lines of the truck.
- When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.
- A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors.
- There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.
- An overhead guard shall be used as protection against falling objects. It should be noted that an overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., representative of the job application, but not to withstand the impact of a falling capacity load.
- A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.
- Trucks shall not be parked so as to block fire aisles, access to stairways, or fire equipment.

TRAVELING

- All traffic regulations shall be observed, including authorized speed limits. A safe distance shall be maintained approximately three truck lengths from the truck ahead, and the truck shall be kept under control at all times.
- The right of way shall be yielded to ambulances, fire trucks, or other vehicles in emergency situations.
- Other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed.

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- The driver shall be required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.
- The driver shall be required to look in the direction of and keep a clear view of the path of travel.
- Grades shall be ascended or descended slowly. When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade. On all grades the load and load engaging means shall be tilted back if applicable and raised only as far as necessary to clear the road surface.
- Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
- Stunt driving and horseplay shall not be permitted.
- The driver shall be required to slow down for wet and slippery floors.
- Dock board or bridge plates shall be properly secured before they are driven over. Dock board or bridge plates shall be driven over carefully and slowly, and their rated capacity never exceeded.
- Running over loose objects on the roadway surface shall be avoided.
- While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.

LOADING

- Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
- Only loads within the rated capacity of the truck shall be handled.
- The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.
- Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.
- A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.
- Extreme care shall be used when tilting the load forward or backward, particularly when highly tiered. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

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FUELING SAFETY

- Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided.
- Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- No truck shall be operated with a leak in the fuel system until the leak has been corrected.
- Open flames shall not be used for checking electrolyte level in storage batteries or gasoline level in fuel tanks.

MAINTENANCE OF POWERED TRUCKS

- Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.
- Those repairs to the fuel and ignition systems of industrial trucks which involve fire hazards shall be conducted only in locations designated for such repairs.
- Trucks in need of repairs to the electrical system shall have the battery disconnected prior to such repairs.
- All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.
- Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counterweighting of fork trucks shall not be done unless approved by the truck manufacturer.
- Equipment shall be examined before being placed in service and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined prior to use each shift. Defects when found shall be immediately reported and corrected.
- When the temperature of any part of any truck is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle shall be removed from service and not returned to service until the cause for such overheating has been eliminated.
- Industrial trucks shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks. Low flash point (below 100 deg. F.) solvents shall not be used. High flash point (at or above 100 deg. F.) solvents may be used.

SAFE OPERATION PROCEDURE FOR REFILLING LPG TANK

1. No Smoking.
2. Move LPG PIT outside for refueling.
3. Turn off PIT.
4. LPG tanks will be removed in the following order:
 - a. -shut off service valve
 - b. -disconnect tank from hose
 - c. -unbuckle and remove tank from bracket
5. LPG tanks will be replaced in to following order:
 - a. -place tank in bracket and re-buckle
 - b. -reconnect hose to tank and tighten firmly
 - c. -open valve slowly and assure proper seal

NOTE: Federal Law Prohibits dispensing an improper fuel type into any Vehicle or into a non-approved fuel container.

In Case of LPG Leaks or Tank Rupture

1. DO NOT start or move the PIT.
2. If fuel hose is leaking, Close valve immediately and
3. place PIT "Out of Service" until repaired.
4. If tank ruptures, warn other, immediately leave the area (at least 50 feet) and notify Management. Do not re-enter the area until cleared by Management.

Powered Industrial Truck Pre-Use Checklist

A check of the following items (as applicable) is to be conducted by the operator prior to use each shift.

- Lights
- Horn
- Brakes
- Leaks
- Warning Beacon
- Backup Warning Alarm
- Fire Extinguisher

If any deficiencies are noted, the unit is to be placed OUT OF SERVICE until the problem has been corrected. Additionally, it is the operator's responsibility to notify the immediate supervisor and fill out a maintenance request.

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General Safety – Health Provision

PURPOSE

The purpose of this policy is to outline General Health and Safety Requirements for all employees performing work on behalf of **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Management

- Ensure adequate resources training are provided to all workers
- Ensure all workers adhere to this policy at all times

Personnel

- Adhere to this policy at all times

POLICY

The Company is committed to providing a safe and healthy environment for all personnel and ensures effective implementation of general safety requirements through:

- Staff having access to policies and procedures relating to field of work
- Provision of tailored training to persons with specific tasks
- Record of activities, including training provided and undertaken, information provided to clients and use of PPE
- Mechanisms for monitoring compliance
- injured employees, a person who has a valid certificate in first aid shall be available at the worksite to render first aid.

HOUSEKEEPING

Work site cleanliness, order and organization are key components to a maintaining an accident free work environment. The that end The Company will ensure that a work site is kept clean and free from materials or equipment that could cause workers to slip or trip.

Management and workers shall complete the following at each worksite regularly:

- Keep an eye out for tools and debris that seem out of place, or that are located in a place or position that may result in harm to a person
- Keep each work area free of sharp objects that may be on the ground in order to prevent injury from stepping on nails or other sharp items
- Sweep work area and remove debris regularly

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- Keep chords and other items that may cause a trip out of the way of workers
- Each employee must be instructed in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

WORKER COMPETENCY

The Company will ensure that each worker is trained in the safe work practices and health and safety topics that pertain to the job at hand.

If work is to be done that may endanger a worker, the employer must ensure that the work is done:

- by a worker who is competent to do the work, or
- by a worker who is working under the direct supervision of a worker who is competent to do the work.

The Company will ensure that workers are trained in the safe operation of the equipment the worker is required to operate.

The Company will assign a competent person to perform frequent and regular inspections of job sites, materials, and equipment.

EQUIPMENT MAINTANENCE

The Company will ensure that all equipment used at each work site:

- is maintained in a condition that will not compromise the health or safety of workers using or transporting it,
- will safely perform the function for which it is intended or was designed,
- is of adequate strength for its purpose, and
- is free from obvious defects.
- Only qualified employees by training or experience shall operate equipment and machinery.

OPERATING EQUIPMENT

Only qualified employees by training or experience shall operate equipment and machinery.

TRAINING

Each employee must be instructed in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

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General Waste Management

PURPOSE

The purpose of this document is to outline the General Waste Management policy for **RUDTUK**; hereafter referred to as "The Company." The goal of this policy is to ensure effective management of waste, movement, storage and disposal of waste produced and to minimize harm to personnel while minimizing environmental impacts.

RESPONSIBILITIES

Safety Officer

- Obtain and review information for each waste stream relating to the relevant legislative requirements and confirming validity with the relevant authorities
- Ensure that waste control documentation is completed and retained as per procedural/ legislative requirements.
- Planning, conducting and reporting of waste audits.

Management

- Ensure all direct reports follow this General Waste Management policy
- Assist Site Directors in waste classification

GENERAL

All types of wastes are to be put into designated bins after generation. Those are to be disposed to identify bins for further handling.

- Biodegradable waste like paper, cotton waste, wood will be kept in green bins which will be transferred to identify area in Scrap Yard for further disposal.
- Non-Biodegradable waste include plastic, polythene, rubber, concrete debris, fire bricks, glass and welding slugs are to be kept at blue bins and to be disposed to identified place at Scrap Yard for further disposal.
- Welding slugs are to be collected and used for land filling
- Oil Contaminated wastes are to be collected in one red bin which will be transferred to identified area in Scrap Yard for further disposal.
- Industrial hazardous wastes in liquid form (used lubricant and used coolant oils) are to be collected in empty oil drums and to be kept under shed and lock and key and the floor must be made of concrete with non-permeable membrane below ground. The content must be labeled.
- The Company will estimate the waste that will be generated prior to work being performed so that the need for containers and waste removal, if necessary, can be determined.

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Biomedical wastes are to be sent to Medical Centre for disposing by deep burial method.

DISPOSAL

- Biodegradable waste includes paper waste, wood waste, cotton waste, and cardboard packets--- can be used for landfill or sold to vendor through auction.
- Non-Biodegradable wastes include plastic, polythene, rubber, concrete debris; glass cannot be used for landfill. Those are to be sold through auction for recycling.
- Contaminated waste including oil/ grease impregnated cotton waste - cannot be used for land filling and to be incinerated through authorized vendors.
- Metallic Waste include off-cuts of steel tubes, plates and turning and borings of tubes and bars, and also nonferrous metallic scrap like aluminum, copper and bronze coming out of maintenance. These wastes are to be sold through auction.
- Waste materials should be properly stored and handled to minimize the potential for a spill or impact to the environment.
- During outdoor activities, receptacles must be covered to prevent dispersion of waste materials and to control the potential for run-off.

The Company encourages the proper segregation of waste materials to ensure opportunities for reuse or recycling.

TRAINING

Employees shall be instructed on the proper disposal method for wastes. This will include general instruction on disposal of non-hazardous wastes, trash, or scrap materials. If wastes generated are classified as hazardous, employees shall be trained to ensure proper disposal.

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General Waste Management - US

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Hand and Power Tools

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding the use of Hand and Power Tools for **RUDTUK**; hereafter referred to as "The Company." This program covers hand, electrical, pneumatic, powder driven, and hydraulic tool safety.

RESPONSIBILITIES

Management

- Provide correct tools for assigned tasks
- Ensure tools are maintained and stored safely
- Provide employee training
- Provide for equipment repair

Employees

- Follow proper tool safety guidelines
- Report tool deficiencies and malfunctions
- Properly store tools when work is completed

Administrative

- Tool sharpening program
- Use of PPE
- Control of tool issue
- Employee Training
- Controlled access to equipment and tool areas

POLICY

Employees who use hand and power tools and who are exposed to the hazards of falling, flying, abrasive and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases must be provided with the particular personal equipment necessary to protect them from the hazard.

All hazards involved in the use of tools can be prevented by following five basic safety rules:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use.
- Operate according to the manufacturer's instructions.
- Provide and use the proper protective equipment.

Whether furnished by the employer or the employee, tools shall be maintained in safe condition.

Any tool which is not in compliance shall be identified as unsafe by tagging and or locking the controls to render the piece of equipment inoperable or the tool shall be physically removed from its place of operation.

HAND TOOLS

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

Some examples:

- Using a screwdriver as a chisel may cause the tip of the screwdriver to break and fly, hitting the user or other employees.
- If a wooden handle on a tool such as a hammer or an axe is loose, splintered, or cracked, the head of the tool may fly off and strike the user or another worker.
- A wrench must not be used if its jaws are sprung, because it might slip.
- Impact tools such as chisels, wedges, or drift pins are unsafe if they have mushroomed heads. The heads might shatter on impact, sending sharp fragments flying.

Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists vapors, or gases shall be provided with particular PPE necessary to protect them from the hazard.

Appropriate personal protective equipment, e.g., safety goggles, gloves, etc., should be worn due to hazards that may be encountered while using portable power tools and hand tools.

Floors shall be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum, or wood will provide for safety.

POWER TOOL PRECAUTIONS

Power tools can be hazardous when improperly used. There are several types of power tools, based on the power source they use: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

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The following general precautions should be observed by power tool users:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters.
- All observers should be kept at a safe distance away from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool.
- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance.
- The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts.
- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use."

GUARDS

Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.

Guards, as necessary, should be provided to protect the operator and others from the following:

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

Guards shall be in place and operable at all times while the tool is in use. The guard may not be manipulated in such way that will compromise its integrity or compromise the protection in which intended. Guarding shall meet the requirements set forth in ANSI B15.1.

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.

SAFETY SWITCHES

The following hand-held powered tools are to be equipped with a momentary contact "on-off" control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2 inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools. These tools also may be equipped with a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

The following hand-held powered tools may be equipped with only a positive "on-off" control switch: platen sanders, disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaws with blade shanks ¼-inch wide or less.

Other hand-held powered tools such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools without positive accessory holding means must be equipped with a constant pressure switch that will shut off the power when the pressure is released.

ELECTRICAL SAFETY

Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure. Under certain conditions, even a small amount of current can result in severe injury and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

To protect the user from shock, tools must either have a three-wire cord with ground or be grounded, be double insulated, or be powered by a low-voltage isolation transformer. Three-wire cords contain two current-carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Anytime an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug.

Double insulation is more convenient. The user and the tools are protected in two ways: by normal insulation on the wires inside, and by a housing that cannot conduct electricity to the operator in the event of a malfunction.

Electric Power Tool General Safety Practices

- Electric tools should be operated within their design limitations.
- Gloves and safety footwear are recommended during use of electric tools.
- When not in use, tools should be stored in a dry place.
- Electric tools should not be used in damp or wet locations.
- Work areas should be well lighted.

POWERED ABRASIVE WHEEL TOOLS

Powered abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments.

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

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.

Powered Grinder Safety Precautions

- Always use eye protection.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.

PNEUMATIC TOOLS

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders. There are several dangers encountered in the use of pneumatic tools. The main one is the danger of getting hit by one of the tool's attachments or by some kind of fastener the worker is using with the tool. Eye protection is required, and face protection is recommended for employees working with pneumatic tools. Working with noisy tools such as jackhammers requires proper, effective use of hearing protection.

When using pneumatic tools, employees are to check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard.

A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel.

Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.

POWDER ACTUATED TOOLS

Powder-actuated tools operate like a loaded gun and should be treated with the same respect and precautions. In fact, they are so dangerous that they must be operated only by specially trained employees.

Powder-Actuated Tool Safety

- These tools should not be used in an explosive or flammable atmosphere.
- Before using the tool, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
- The tool should never be pointed at anybody.
- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons.
- Hands should be kept clear of the barrel end. To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position, and another to pull the trigger. The tools must not be able to operate until they are pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

If a powder-actuated tool misfires, the employee should wait at least 30 seconds, then try firing it again. If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, then carefully remove the load. The bad cartridge should be put in water.

Suitable eye and face protection are essential when using a powder-actuated tool.

The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of safety device.

All powder-actuated tools must be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force.

If the tool develops a defect during use it should be tagged and taken out of service immediately until it is properly repaired.

POWERED ACTUATED TOOL FASTENERS

When using powder-actuated tools to apply fasteners, there are some precautions to consider. Fasteners must not be fired into material that would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than 3 inches to an edge or corner. In steel, the fastener must not come any closer than one-half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials which might chip or splatter or make the fastener ricochet.

An alignment guide must be used when shooting a fastener into an existing hole. A fastener must not be driven into a spalled area caused by an unsatisfactory fastening.

HYDRAULIC POWER TOOLS

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

JACKS

All jacks - lever and ratchet jacks, screw jacks, and hydraulic jacks - must have a device that stops them from jacking up too high. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack and should not be exceeded.

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up. Use wooden blocking under the base if necessary, to make the jack level and secure. If the lift surface is metal, place a 1-inch-thick hardwood block or equivalent between it and the metal jack head to reduce the danger of slippage.

To set up a jack, make certain of the following:

- The base rests on a firm level surface,
- The jack is correctly centered,
- The jack head bears against a level surface, and
- The lift force is applied evenly.

Proper maintenance of jacks is essential for safety. All jacks must be inspected before each use and lubricated regularly. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

Hydraulic jacks exposed to freezing temperatures must be filled with an adequate antifreeze liquid.

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HAZCOM

PURPOSE

The purpose of this document is to outline the Hazard Communication Program for **RUDTUK**; hereafter referred to as "The Company." It provides detailed safety guidelines and instructions for receipt, use and storage of chemicals at our facility by employees and contractors. Reference: OSHA Standard [29 CFR 1910.1200](#).

RESPONSIBILITIES

Management

- Ensure compliance with this program
- Conduct immediate corrective action for deficiencies found in the program
- Maintain an effective Hazard Communication training program
- Make this plan available to employees or their designated representative

Shipping and Receiving Manager

- Ensure all received containers are properly labeled and that labels are not removed or defaced
- Ensure all shipped containers are properly labeled
- Ensure shipping department employees are properly trained in spill response
- Ensure received Safety Data Sheets (SDS) are properly distributed

Purchasing Agent

- Obtain, from the manufacturer, SDS for chemicals purchased from retail sources

Safety Coordinator

- Maintain a list of hazardous chemicals using the identity that is referenced on the SDS
- Monitor the effectiveness of the program
- Conduct annual audit of the program
- Monitor employee training to ensure effectiveness
- Keep management informed of necessary changes
- Ensure SDSs are available as required
- Monitor facility for proper use, storage and labeling of chemicals
- Ensure SDS are available for emergency medical personnel when treating exposed employees
- Provide information, as requested, concerning health effects and exposure symptoms listed on SDS

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Supervisors

- Comply with all specific requirements of the program
- Provide specific chemical safety training for assigned employees
- Ensure chemicals are properly used stored and labeled
- Ensure only the minimum amount necessary is kept at work stations
- Ensure up to date SDS are readily accessible to all employees on all shifts

Employees

- Comply with chemical safety requirements of this program
- Report any problems with storage or use of chemicals
- Immediately report spills of suspected spills of chemicals
- Use only those chemicals for which they have been trained
- Use chemicals only for specific assigned tasks in the proper manner

Contractors

- Comply will all aspects of this program
- Coordinate information with the Safety Coordinator
- Ensure Contractor employees are properly trained
- Notify the Safety Coordinator before bringing any chemicals into company property of facilities
- Monitor and ensure proper storage and use of chemicals by Contractor employees

POLICY

This written Hazard Communication Program (HAZCOM) has been developed based on OSHA Hazard Communication Standard and consists of the following elements:

- Identification of Hazardous Materials
- Product Warning Labels
- Safety Data Sheets (SDS)
- Written Hazard Communication Program
- Effective Employee Training

Some chemicals are explosive, corrosive, flammable, or toxic. Other chemicals are relatively safe to use and store but may become dangerous when they interact with other substances. To avoid injury and/or property damage, persons who handle chemicals in any area of The Company must understand the hazardous properties of the chemicals. Before using a specific chemical, safe handling methods and health hazards must always be reviewed. Supervisors are responsible for ensuring that the equipment needed to work safely with chemicals is accessible and maintained for all employees on all shifts.

A list of the hazardous chemicals known to be present using an identity that is referenced on the appropriate Safety Data Sheet shall be maintained and posted in a conspicuous area at each worksite.

SDSs shall be maintained and readily accessible in each work area. SDSs can be maintained at the primary work site. However, they should be available in case of an emergency. SDS must be made available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director.

An SDS must be obtained for each required chemical. In addition, SDSs are to be maintained in a readily accessible location to employees.

EMPLOYEE TRAINING

Initial Orientation Training

All new employees shall receive safety orientation training covering the elements of the HAZCOM and Right to Know Program. This training will consist of general training covering:

- Location and availability of the written Hazard Communication Program
- Location and availability of the List of Chemicals used in the workplace
- Methods and observation used to detect the presence or release of a hazardous chemical in the workplace.
- The specific physical and health hazard of all chemicals in the workplace
- Specific control measures for protection from physical or health hazards
- Explanation of the chemical labeling system
- Location and use of SDS

Employees shall be provided with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new physical or health hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.

Job Specific Training

Employees will receive on the job training from their supervisor. This training will cover the proper use, inspection and storage of necessary personal protective equipment and chemical safety training for the specific chemicals they will be using or will be working around.

Annual Refresher Training

Annual Hazard Communication refresher training will be conducted as part of The Company's continuing safety training program.

Immediate On-the-Spot Training

This training will be conducted by supervisors for any employee that requests additional information or exhibits a lack of understanding of the safety requirements.

NON-ROUTINE TASKS

Non-routine tasks are defined as working on, near, or with unlabeled piping, unlabeled containers of an unknown substance, confined space entry where a hazardous substance may be present and/or a one-time task using a hazardous substance differently than intended (example: using a solvent to remove stains from tile floors).

Steps for Non-Routine Tasks:

- Step 1: Hazard Determination
- Step 2: Determine Precautions
- Step 3: Specific Training and Documentation
- Step 4: Perform Task

All non-routine tasks will be evaluated by the Department Supervisor and Safety Department before the task commences, to determine all hazards present. This determination will be conducted with quantitative/qualitative analysis (air sampling, substance identification/analysis, etc., as applicable).

Once the hazard determination is made, the Department Supervisor and Safety Department will determine the necessary precautions needed to either remove the hazard, change to a non-hazard, or protect from the hazard (use of personal protective equipment) to safeguard the Employees present. In addition, the Department Supervisor or Safety Department will provide specific safety training for Employees present or affected and will document the training using the Chemical Safety Training Checklist form which shall be marked "**Non-Routine Task Training.**"

OFF SITE USE OR TRANSPORTATION OF CHEMICALS

An SDS will be provided to employees for each chemical and each occurrence of use or transport away from The Company facilities. All State and Federal DOT Regulations will be followed including use of certified containers, labeling and marking, securing of containers and employee training.

GENERAL CHEMICAL SAFETY

Assume all chemicals are hazardous. The number of hazardous chemicals and the number of reactions between them is so large that prior knowledge of all potential hazards cannot be assumed. Use chemicals in as small quantities as possible to minimize exposure and reduce possible harmful effects.

The following general safety rules shall be observed when working with chemicals:

- Read and understand the Safety Data Sheets.
- Keep the work area clean and orderly.

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- Use the necessary safety equipment.
- Carefully label every container with the identity of its contents and appropriate hazard warnings.
- Store incompatible chemicals in separate areas.
- Substitute less toxic materials whenever possible.
- Limit the volume of volatile or flammable material to the minimum needed for short operation periods.
- Provide means of containing the material if equipment or containers should break or spill their contents.

TASK EVALUTATION

Each task that requires the use of chemicals should be evaluated to determine the potential hazards associated with the work. This hazard evaluation must include the chemical or combination of chemicals that will be used in the work, as well as other materials that will be used near the work. If a malfunction during the operation has the potential to cause serious injury or property damage, a Safe Operational Procedure (SOP) should be prepared and followed. Operations must be planned to minimize the generation of hazardous wastes.

CHEMICAL STORAGE

The separation of chemicals (solids or liquids) during storage is necessary to reduce the possibility of unwanted chemical reactions caused by accidental mixing. Explosives should be stored separately outdoors. Use either distance or barriers (e.g., trays) to isolate chemicals into the following groups:

- Flammable Liquids: store in approved flammable storage lockers.
- Acids: treat as flammable liquids
- Bases: do not store bases with acids or any other material
- Other liquids: ensure other liquids are not incompatible with any other chemical in the same storage location.
- Lips, strips, or bars are to be installed across the width of storage shelves to restrain the chemicals in case of earthquake.

Chemicals will not be stored in the same refrigerator used for food storage. Refrigerators used for storing chemicals must be appropriately identified by a label on the door.

CONTAINER LABELS

It is extremely important that all containers of chemicals are properly labeled. This includes every type of container from a 5000-gallon storage tank to a spray bottle of degreaser. The following requirements apply:

- All containers will have the appropriate label, tag or marking prominently displayed that indicates the identity, safety and health hazards.

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- Portable containers which contain a small amount of chemical need not be labeled if they are used immediately that shift but must be under the strict control of the employee using the product.
- All warning labels, tags, etc., must be maintained in a legible condition and not be defaced. Facility weekly supervisor inspections will check for compliance of this rule.
- Incoming chemicals are to be checked for proper labeling.

Each container label should contain the following information:

- Pictograms
- Precautionary statements
- Name, address and telephone number of the chemical manufacture

EMERGENCIES AND SPILLS

In case of an emergency, implement the proper Emergency Action Plan

- Evacuate people from the area.
- Isolate the area.
- If the material is flammable, turn off ignition and heat sources.
- Only personnel specifically trained in emergency response are permitted to participate in chemical emergency procedures beyond those required to evacuate the area.
- Call for Emergency Response Team assistance if required.

HOUSEKEEPING

- Maintain the smallest possible inventory of chemicals to meet immediate needs.
- Periodically review stock of chemicals on hand.
- Ensure that storage areas, or equipment containing large quantities of chemicals, are secure from accidental spills.
- Rinse emptied bottles that contain acids or inflammable solvents before disposal.
- Recycle unused laboratory chemicals wherever possible.
- **DO NOT** Place hazardous chemicals in salvage or garbage receptacles.
- **DO NOT** Pour chemicals onto the ground.
- **DO NOT** Dispose of chemicals through the storm drain system.
- **DO NOT** Dispose of highly toxic, malodorous chemicals down sinks or sewer drains.

MULTI-EMPLOYERS WORKSITE

Where employees must travel between work places throughout the course of business, the written HAZCOM Program will be available in the employee "pocket sized safety manual" that shall be kept in each work vehicle at all times.

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All outside contractors working inside Company Facilities are required to follow the requirements of this program. The Company will provide Contractors information concerning:

- Pre-job/ kick-off briefing shall be conducted with the contractor prior to the initiation of work on the site.
- Location of SDS
- Precautions to be taken to protect contractor employees
- Potential exposure to hazardous substances
- Chemicals used in or stored in areas where they will be working
- Location and availability of Safety Data Sheets
- Recommended Personal Protective Equipment
- Labeling system for chemicals

A written hazard communication program shall be developed, implemented, and maintained at each workplace that describes how labels and other forms of warning, safety data sheets, and employee information will be met.

SDS INFORMATION

Safety Data Sheets are provided by the chemical manufacturer to provide additional information concerning safe use of the product. Each SDS provides:

- Common Name and Chemical Name of the material
- Name, address and phone number of the manufacturer
- Emergency phone numbers for immediate hazard information
- Date the SDS was last updated
- Listing of hazardous ingredients
- Chemical hazards of the material
- Information for identification of chemical and physical properties

INFORMATION CHEMICAL USERS MUST KNOW

Fire and/or Explosion Information

- Material Flash Point, auto-ignition temperature and upper/lower flammability limits
- Proper fire extinguishing agents to be used
- Firefighting techniques
- Any unusual fire or explosive hazards

Chemical Reaction Information

- Stability of Chemical
- Conditions and other materials which can cause reactions with the chemical
- Dangerous substances that can be produced when the chemical reacts

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Control Measures

- Engineering Controls required for safe product use
- Personal protective equipment required for use of product
- Safe storage requirements and guidelines
- Safe handling procedures

Health Hazards

- Permissible Exposure Limit (PEL) and Threshold Limit Value (TLV)
- Acute or Chronic symptoms of exposure
- Main routes of entry into the body
- Medical conditions that can be made worse by exposure
- Cancer causing properties if any
- Emergency and First Aid treatments

Spill and Leak Procedures

- Clean up techniques
- Personal Protective Equipment to be used during cleanup
- Disposal of waste and cleanup material

EMPLOYEE USE OF SDS

For SDS use to be effective, employees must:

- Know the location of the SDS
- Understand the major points for each chemical
- Check SDS when more information is needed, or questions arise
- Be able to quickly locate the emergency information on the SDS
- Follow the safety practices provided on the SDS

DEFINITIONS

Chemical - any element, chemical compound or mixture of elements and/or compounds.

Combustible liquid - means any liquid having a flash point at or above 100 deg. F (37.8 deg. C), but below 200 deg. F (93.3 deg. C), except any mixture having components with flash points of 200 deg. F (93.3 deg. C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

Compressed gas - any compound that exhibits:

- i. A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 deg. F.
- ii. A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 deg. F. regardless of the pressure at 70 deg. F.
- iii. A liquid having a vapor pressure exceeding 40 psi at 100 deg. F.

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Container - any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

Employee - a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Employer - a person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

Explosive - a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Exposure or exposed - an employee is subjected in the course of employment to a chemical that is a physical or health hazard and includes potential (e.g. accidental or possible) exposure. Subjected in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

Flammable - a chemical that falls into one of the following categories:

- i. "Aerosol, flammable" means an aerosol that yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening;
- ii. "Gas, flammable" means:
 - a. A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of thirteen (13) percent by volume or lessor,
 - b. A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than twelve (12) percent by volume, regardless of the lower limit;
- iii. "Liquid, flammable" means any liquid having a flash point below 100 deg. F., except any mixture having components with flash points of 100 deg. F. or higher, the total of which make up 99 percent or more of the total volume of the mixture.
- iv. "Solid, flammable" means a solid, other than a blasting agent or explosive as defined in [29 CFR 1910.109\(a\)](#), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

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Flash point - the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite.

Hazardous chemical - any chemical which is a physical hazard or a health hazard.

Hazard warning - any words, pictures, symbols, or combination appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s). (See the definitions for "physical hazard" and "health hazard" to determine the hazards which must be covered.)

Health hazard - a chemical for which there is evidence that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Identity - any chemical or common name which is indicated on the safety data sheet (SDS) for the chemical. The identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label and the SDS.

Immediate use - the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

Label - any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Safety data sheet (SDS) - written or printed material concerning a hazardous chemical which is prepared in accordance with OSHA Standard [29 CFR 1910.1200](#) requirements.

Mixture - any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.

Oxidizer - means a chemical other than a blasting agent or explosive as defined in 1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

Physical hazard - a chemical that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

Pyrophoric - a chemical that will ignite spontaneously in air at a temperature of 130 deg. F. or below.

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Specific chemical identity - the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

Unstable (reactive) - a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

Use - to package, handle, react, emit, extract, generate as a byproduct, or transfer.

Water-reactive - a chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

Work area - a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Workplace - an establishment, job site, or project, at one geographical location containing one or more work areas.

GHS (GLOBAL HARMONIZATION SYSTEM)



INTRODUCTION

The Globally Harmonized System (GHS) is an international approach to hazard communication, providing agreed criteria for classification of chemical hazards, and a standardized approach to label elements and safety data sheets. The GHS was negotiated in a multi-year process by hazard communication experts from many different countries, international organizations, and stakeholder groups. It is based on major existing systems around the world, including OSHA's Hazard Communication Standard and the chemical classification and labeling systems of other US agencies.

The result of this negotiation process is the United Nations' document entitled "Globally Harmonized System of Classification and Labeling of Chemicals," commonly referred to as The Purple Book. This document provides harmonized classification criteria for health, physical, and environmental hazards of chemicals. It also includes standardized label elements that are assigned to these hazard classes and categories, and provide the appropriate signal words, pictograms, and hazard and precautionary statements to convey the hazards to users. A standardized order of information for safety data sheets is also provided. These recommendations can be used by regulatory authorities such as OSHA to establish mandatory requirements for hazard communication, but do not constitute a model regulation.

OVERVIEW

The revised Hazard Communication Standard (HCS) is a modification to the existing standard. The parts of the standard that did not relate to the GHS (such as the basic framework, scope, and exemptions) remained largely unchanged. There have been some modifications to terminology in order to align the revised HCS with language used in the GHS. For example, the term "hazard determination" has been changed to "hazard classification" and "material safety data sheet" was changed to "safety data sheet." OSHA stakeholders commented on this approach and found it to be appropriate.

Under both the current Hazard Communication Standard (HCS) and the revised HCS, an evaluation of chemical hazards must be performed considering the available scientific evidence concerning such hazards. Under the current HCS, the hazard determination provisions have definitions of hazard and the evaluator determines whether or not the data on a chemical meet those definitions. It is a performance-oriented approach that provides parameters for the evaluation, but not specific, detailed criteria. The hazard classification approach in the revised HCS is quite different. The revised HCS has specific criteria for each health and physical hazard, along with detailed instructions for hazard evaluation and determinations as to whether mixtures or substances are covered. It also establishes both hazard classes and hazard categories—for most of the effects; the classes are divided into categories that reflect the relative severity of the effect. The current HCS does not include categories for most of the health hazards covered, so this new approach provides additional information that can be related to the appropriate response to address the hazard. OSHA has included the general provisions for hazard classification in paragraph (d) of the revised rule and added extensive appendixes (Appendixes A and B) that address the criteria for each health or physical effect.

Major changes to the Hazard Communication Standard?

A. The three major areas of change are in hazard classification, labels, and safety data sheets.

Hazard classification: The definitions of hazard have been changed to provide specific criteria for classification of health and physical hazards, as well as classification of mixtures. These specific criteria will help to ensure that evaluations of hazardous effects are consistent across manufacturers, and that labels and safety data sheets are more accurate as a result.

Labels: Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided.

Safety Data Sheets: Will now have a specified 16-section format.

HAZARD COMMUNICATION STANDARD: SAFETY DATA SHEETS

The information required on the safety data sheet (SDS) will remain essentially the same as that in the current standard (HazCom 1994). HazCom 1994 indicates what information has to be included on an SDS but does not specify a format for presentation or order of information. The revised Hazard Communication Standard (HazCom 2012) requires that the information on the SDS be presented using specific headings in a specified sequence.

Paragraph (g) of the final rule provides the headings of information to be included on the SDS and the order in which they are to be provided. In addition, Appendix D provides the information to be included under each heading. The SDS format is the same as the ANSI standard format, which is widely used in the U.S. and is already familiar to many employees.

The format of the 16-section SDS should include the following sections:

- Section 1. Identification
- Section 2. Hazard(s) identification
- Section 3. Composition/information on ingredients
- Section 4. First-Aid measures
- Section 5. Fire-fighting measures
- Section 6. Accidental release measures
- Section 7. Handling and storage
- Section 8. Exposure controls/personal protection
- Section 9. Physical and chemical properties
- Section 10. Stability and reactivity
- Section 11. Toxicological information
- Section 12. Ecological information
- Section 13. Disposal considerations
- Section 14. Transport information
- Section 15. Regulatory information
- Section 16. Other information, including date of preparation or last revision

The SDS must also contain Sections 12-15, to be consistent with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Although the headings for Sections 12-15 are mandatory, OSHA will not enforce the content of these four sections because these sections are within other agencies' jurisdictions.

The Hazard Communication Standard (HCS) ([29 CFR 1910.1200\(g\)](#)), revised in 2012, requires that the chemical manufacturer, distributor, or importer provide Safety Data Sheets (SDSs) (formerly MSDSs or Material Safety Data Sheets) for each hazardous chemical to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the former MSDS, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format. This brief provides guidance to help workers who

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handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. The information contained in the SDS must be in English (although it may be in other languages as well). In addition, OSHA requires that SDS preparers provide specific minimum information as detailed in [Appendix D of 29 CFR 1910.1200](#). The SDS preparers may also include additional information in various section(s).

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., firefighting). This information should be helpful to those that need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies

A description of all 16 sections of the SDS, along with their contents, is presented here:

Section 1: Identification

This section identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information of the supplier. The required information consists of:

Product identifier used on the label and any other common names or synonyms by which the substance is known.

Name, address, phone number of the manufacturer, importer, or other responsible party, and emergency phone number.

Recommended use of the chemical (e.g., a brief description of what it actually does, such as flame retardant) and any restrictions on use (including recommendations given by the supplier). ¹

Section 2: Hazard(s) Identification

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This section identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards. The required information consists of:

The hazard classification of the chemical (e.g., flammable liquid, category¹).

Signal word.

Hazard statement(s).

Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame).

Precautionary statement(s).

Description of any hazards not otherwise classified.

For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s).

Section 3: Composition/Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of:

Substances

Chemical name.

Common name and synonyms.

Chemical Abstracts Service (CAS) number and other unique identifiers.

Impurities and stabilizing additives, which are themselves classified and which contribute to the classification of the chemical.

Mixtures

Same information required for substances.

The chemical name and concentration (i.e., exact percentage) of all ingredients which are classified as health hazards and are:

Present above their cut-off/concentration limits or

Present a health risk below the cut-off/concentration limits.

The concentration (exact percentages) of each ingredient must be specified except concentration ranges may be used in the following situations:

A trade secret claim is made,

There is batch-to-batch variation, or

The SDS is used for a group of substantially similar mixtures.

Chemicals where a trade secret is claimed

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A statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical. The required information consists of:

Necessary first-aid instructions by relevant routes of exposure (inhalation, skin and eye contact, and ingestion).
Description of the most important symptoms or effects, and any symptoms that are acute or delayed.
Recommendations for immediate medical care and special treatment needed, when necessary.

Section 5: Fire-Fighting Measures

This section provides recommendations for fighting a fire caused by the chemical. The required information consists of:

Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation.
Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns.
Recommendations on special protective equipment or precautions for firefighters.

Section 6: Accidental Release Measures

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

Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing.
Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing.
Methods and materials used for containment (e.g., covering the drains and capping procedures).
Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning or vacuuming; adsorbent materials; and/or equipment required for containment/clean up)

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Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals. The required information consists of:

Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited).

Recommendations on the conditions for safe storage, including any incompatibilities. Provide advice on specific storage requirements (e.g., ventilation requirements)

Section 8: Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure. The required information consists of:

OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

Appropriate engineering controls (e.g., use local exhaust ventilation, or use only in an enclosed system).

Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE) (e.g., appropriate types of eye, face, skin or respiratory protection needed based on hazards and potential exposure).

Any special requirements for PPE, protective clothing or respirators (e.g., type of glove material, such as PVC or nitrile rubber gloves; and breakthrough time of the glove material).

Section 9: Physical and Chemical Properties

This section identifies physical and chemical properties associated with the substance or mixture. The minimum required information consists of:

Appearance (physical state, color, etc.);

Upper/lower flammability or explosive limits;

Odor;

Vapor pressure;

Odor threshold;

Vapor density;

pH;

Relative density;

Melting point/freezing point;

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Solubility(ies);
Initial boiling point and boiling range;
Flash point;
Evaporation rate;
Flammability (solid, gas);
Upper/lower flammability or explosive limits;
Vapor pressure;
Vapor density;
Relative density;
Solubility(ies);
Partition coefficient: n-octanol/water;
Auto-ignition temperature;
Decomposition temperature; and
Viscosity.

The SDS may not contain every item on the above list because information may not be relevant or is not available. When this occurs, a notation to that effect must be made for that chemical property. Manufacturers may also add other relevant properties, such as the dust deflagration index (Kst) for combustible dust, used to evaluate a dust's explosive potential

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other. The required information consists of:

Reactivity

Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available.

Chemical stability

Indication of whether the chemical is stable or unstable under normal ambient temperature and conditions while in storage and being handled.

Description of any stabilizers that may be needed to maintain chemical stability.

Indication of any safety issues that may arise should the product change in physical appearance.

Other

Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur.

List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, or environmental conditions that may lead to hazardous conditions).

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List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation.

List of any known or anticipated hazardous decomposition products that could be produced because of use, storage, or heating. (Hazardous combustion products should also be included in Section 5 (Fire-Fighting Measures) of the SDS.)

Section 11: Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available. The required information consists of:

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact). The SDS should indicate if the information is unknown.

Description of the delayed, immediate, or chronic effects from short- and long-term exposure.

The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 (median lethal dose)) - the estimated amount [of a substance] expected to kill 50% of test animals in a single dose.

Description of the symptoms. This description includes the symptoms associated with exposure to the chemical including symptoms from the lowest to the most severe exposure.

Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA

Section 12: Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment. The information may include:

Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants).

Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis.

Results of tests of bioaccumulation potential, making reference to the octanol-water partition coefficient (Kow) and the bioconcentration factor (BCF), where available.

The potential for a substance to move from the soil to the groundwater (indicate results from adsorption studies or leaching studies).

Other adverse effects (e.g., environmental fate, ozone layer depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and/or global warming potential).

Section 13: Disposal Considerations (non-mandatory)

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This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 (Exposure Controls/Personal Protection) of the SDS. The information may include:

- Description of appropriate disposal containers to use.
- Recommendations of appropriate disposal methods to employ.
- Description of the physical and chemical properties that may affect disposal activities.
- Language discouraging sewage disposal.
- Any special precautions for landfills or incineration activities

Section 14: Transport Information (non-mandatory)

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea. The information may include:

- UN number (i.e., four-figure identification number of the substance)¹.
- UN proper shipping name¹.
- Transport hazard class(es)¹.
- Packing group number, if applicable, based on the degree of hazard².
- Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code)).
- Guidance on transport in bulk (according to Annex II of MARPOL 73/78³ and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code))).
- Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises (indicate when information is not available).

Section 15: Regulatory Information (non-mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include:

- Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations)

Section 16: Other Information

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This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

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NEW HCS PICTOGRAMS AND HAZARDS

There are nine pictograms under the GHS to convey the health, physical and environmental hazards. The final Hazard Communication Standard (HCS) requires eight of these pictograms, the exception being the environmental pictogram, as environmental hazards are not within OSHA's jurisdiction. The hazard pictograms and their corresponding hazards are shown below.

Health Hazard 	Flame 	Exclamation Mark 
<ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder 	Corrosion 	Exploding Bomb 
<ul style="list-style-type: none"> • Gases under Pressure 	<ul style="list-style-type: none"> • Skin Corrosion/ burns • Eye Damage • Corrosive to Metals 	<ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame over Circle 	Environment (Non-Mandatory) 	Skull and Crossbones 
<ul style="list-style-type: none"> • Oxidizers 	<ul style="list-style-type: none"> • Aquatic Toxicity 	<ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

ALLOCATION OF LABEL ELEMENTS (EXAMPLES)

In the revised Hazard Communication Standard (HCS), OSHA has provided classifiers with the option of relying on the classification listings of IARC and NTP to make classification decisions regarding carcinogenicity, rather than applying the criteria themselves. OSHA believes that this will make classification easier for classifiers, as well as lead to greater consistency. In addition, OSHA has provided in non-mandatory Appendix F of the revised rule, guidance on hazard

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classification for carcinogenicity. Part A of Appendix F includes background guidance provided by GHS based on the Preamble of the IARC "Monographs on the Evaluation of Carcinogenic Risks to Humans" (2006). Part B provides IARC classification information. Part C provides background guidance from the National NTP "Report on Carcinogens" (RoC), and Part D is a table that compares GHS carcinogen hazard categories to carcinogen classifications under IARC and NTP, allowing classifiers to be able to use information from IARC and NTP RoC carcinogen classifications to complete their classifications under the GHS, and thus the HCS.

CARCINOGENICITY		
Category 1A	Category 1B	Category 2
Danger	Danger	Warning
		
May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
Not required under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations.		

OSHA is retaining the requirement to include the American Conference of Government Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) on the safety data sheet (SDS) in the revised Standard. OSHA finds that requiring TLVs on the SDS will provide employers and employees with useful information to help them assess the hazards presented by their workplaces. In addition to TLVs, OSHA permissible exposure limits (PELs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet are also required.

The Company strictly adheres to these guidelines.

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HAZCOM- US

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HAZWOPER/Resource Conservation Recovery Act

PURPOSE

The purpose of this document is to outline the Hazardous Waste Operations / Resource Conservation Act Program for **RUDTUK**; hereafter referred to as The Company.

RUDTUK employees will work within the scope of their training to assist the authorities delegated by the chain-of-command.

DECONTAMINATION

A decontamination plan will be established for any applicable job site to which RUDTUK employees are assigned. The decontamination plan should:

- Determine the number and layout of required stations
- Determine the equipment needed
- Determine appropriate methods
- Establish procedures to prevent contamination of clean areas
- Establish methods and procedures to minimize worker contact with contaminants during removal of personal protective equipment
- Establish methods for disposing of clothing and equipment that are completely decontaminated

Although it is the objective of this program to prevent the need for decontamination of any employees, RUDTUK employees will be trained on the procedures to follow should they ever become contaminated.

Records

For each employee, all training and medical surveillance records, including the methods used for training, will be maintained for the duration of employment plus an additional 12 months thereafter.

POST EMERGENCY RESPONSE

RUDTUK does not have the equipment or facilities to remove and properly dispose of hazardous substances. If the incident commander determines it is necessary to remove hazardous substances, health hazards and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the job site, a sub-contractor must be contracted to remove the affected material.

Company employees will never be responsible for the containment or cleanup of hazardous materials without the appropriate training.

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Supervisors and Gang Pushers will receive Level 2 First Responder Operations training in order to contain a release, slow the spread of hazardous materials and prevent exposure. All employees assigned to a jobsite that contains or could potentially contain hazardous materials will be trained at Level 1 (First Responder Awareness)— observation, reporting and evacuation. All affected employees will receive additional training to insure a comprehensive understanding of the written Emergency Response Plan, so that every employee on the job site is capable of notifying the appropriate personnel before evacuating. No employee will be subjected to the hazard of any material without the proper training.

EMERGENCY RESPONSE/PLAN GENERAL GUIDELINES

A written site-specific Emergency Response Plan will be in place, and employees will be trained on and understand it before any work will commence.

The site-specific plan will include, but not be limited to, the following areas:

- Pre-emergency planning and coordination with outside responding agencies (i.e. fire, EMS, and law enforcement, etc.).
- Personnel roles, lines of authority and lines of communication.
- Emergency recognition and prevention (what constitutes an emergency and how to prevent the occurrence).
- Safe distances and places of refuge.
- Site security and control.
- Evacuation routes and procedures.
- Decontamination procedures.
- Emergency medical treatment and first aid.
- Emergency alerts and response.
- Personal protective equipment and emergency equipment.
- Engineering controls (i.e. enclosure/isolation, and exhaust/mechanical ventilation, etc.)
- Air monitoring
- Critique of response procedures and follow-up

Employees who exhibit signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency shall be provided with medical consultation. In addition, any employees who have been or could have been exposed to a hazardous material during the emergency response will be subject to medical surveillance for one year following the incident to ensure that no signs or symptoms develop. RUDTUK will assume all costs related to the medical surveillance.

NOTE: The plan must be in writing, implemented prior to the commencement of any work, and available for inspection by employees, their representatives and OSHA; no fewer than two copies are to be present on all affected job sites.

TRAINING

Hazwoper includes five levels of training and expertise. The levels are differentiated by the amount of expertise and on-site responsibilities delegated to each.

The name, responsibilities and required training for each are included in the following list:

- **Level 1: First Responder Awareness**

This level trains employees to be aware of any release of hazardous substances and to alert the response team. This includes observation, reporting and evacuation training. Between 4 and 8 hours of training are acceptable at this level.

- **Level 2: First Responder Operations**

This defensive training applies to employees who are not authorized to stop a release. This level trains them to contain a release, slow the spread of hazardous material, and prevent exposure.

A minimum of 8 hours of training is required. Level 2 responders must know everything that Level 1 personnel know and may be required to take the complete 24-hour Hazwoper program. Additionally, they must know how to select and use personal protective equipment, how to confine and control a simple spill, and basic decontamination procedures.

In addition to covering the same topics as Level 2, the hazardous material technicians must be trained to:

- Implement the company's emergency response plan;
- Identify, classify and verify specific and/or unknown substances with the use of special instruments
- Perform advanced containment operations, and
- Understand decontamination and toxicology and be able to identify personnel who exhibit exposure symptoms.
- Function within an assigned role in the ICS

This training level often includes at least one day of field experience.

- **Level 3: Hazardous Materials Technician**

This level teaches employees how to stop the release of hazardous material by patching, plugging, or repairing the vessel or container that is leaking. Training must be at least 24 hours in length.

- **Level 4: Hazardous Materials Specialist**

This specialist assists the technician in containing the spill and provides expertise in hazardous substances to be contained. The specialist also acts as the on-site liaison with government authorities. At this level, OSHA requires at least 24 hours of training. However, it is not uncommon for employees to receive 40 hours of instruction.

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Instruction for the hazardous material specialist begins with Level 2 and 3 training. Specialists are trained to implement the company's emergency response plan, as well as state and local plans, and, if necessary, develop a site safety and control plan. Specialists must have an in-depth knowledge of the hazardous materials on-site, hazard and risk assessment techniques, and hazardous material disposal.

RUDTUK employees who are trained to Level 4 will receive the additional training necessary to educate them on the PPE necessary to protect all persons involved in the control and cleanup of the hazard; training should include chemical protective clothing.

- **Level 5: On-Site Incident Commander**

This person is in charge of the entire response, cleanup and disposal operation and OSHA requires a minimum of 24 hours of training. Many employers provide up to 40 hours of training. Training covers the following topics:

- The company's Incident Command System (ICS);
- Emergency response plan;
- Local, state, and federal emergency response plans (including all regulations)
- Personal protective equipment; and
- Decontamination of responders and equipment.

The "senior official" at an emergency response is the most senior official on the site who is responsible for controlling operations. The senior officer on the first piece of responding emergency apparatus assumes the role of "senior official," but it is subsequently passed up the line of authority, that has been previously established, as more senior officials arrive on the scene. Employees or agents of the operator will always take seniority over equally certified RUDTUK employees.

At each level, training must be documented and employees certified prior to their arrival at the job site. Employees must pass a written exam to demonstrate their proficiency following their initial training and after each annual refresher course. The training and testing of an employee must be based on his/her duties and functions.

If an emergency response team is obligated, under a mutual aid agreement, to respond to an offsite incident, the 24-hour emergency training and response procedures are valid during the emergency period only (i.e. rescue, containment and control, etc.). However, if an emergency response team is engaged in the cleanup of a hazardous waste site, training must comply with all regulations covering hazardous waste site remediation (29 CFR 1910.120(a)(1)(i)) and the full 40-hour training is required.

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All training is to be administered by instructors that have been certified to teach the material, either through training or academic credentials, and have demonstrated their competency.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Whenever possible, engineering controls (i.e. pressurized cabs and remotely operated equipment) must be utilized to mitigate the hazards associated with hazardous waste. However, PPE must still be provided and worn. The individual in charge of the ICS is ultimately responsible for assuring that all affected individuals are equipped with the appropriate PPE for the hazards present. The Incident Commander shall assure that protective clothing protects the head, body, and extremities, and consists of at least the following components: foot and leg protection; hand protection; body protection; eye, face and head protection.

If there is a risk of exposure to an inhalation hazard, all affected employees will be equipped with and required to wear a positive pressure self-contained breathing apparatus (SCBA). SCBAs shall be worn until the Incident Commander determines, through the use of air monitoring, that a decreased level of respiratory protection will not result in hazardous exposures to employees.

In the event that skilled support personnel are needed to contain and/or eliminate a hazard, they shall receive an initial briefing that will include instruction in the wearing of appropriate PPE, what chemical hazards are involved, and what duties are to be performed. In addition, the safety and health precautions implemented for the employees on-site, including but not limited to PPE, shall be extended to these skilled personnel.

Employees who work with and are trained on the hazards of specific hazardous substances that may be called upon to offer technical advice to the individual in charge of the ICS shall receive training or demonstrate competency in the area of their specialization annually.

CONTROL AND CLEAN UP

All RUDTUK employees assigned to a job site that contains or could potentially contain hazardous materials will be trained in accordance with the First Responder Awareness criterion. Upon assignment, employees will receive additional training to instruct them on the site-specific emergency response plan, including the names and numbers of the individuals who need to be contacted immediately in the event of an emergency (i.e. the on-site first responders, and the responding agencies with which emergency protocols have been established, etc.), the evacuation routes and procedures, and safe distances and places of refuge, etc.

There will be at least two available Level 2 technicians on any job site that RUDTUK employees are assigned to; this is to ensure compliance with 29 CFR 1910.120, which requires a buddy system, to slow and control a hazardous spill. In addition, a Level 5 Incident Commander will be available to implement the emergency response plan.

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RUDTUK employees will work within the scope of their training to assist the authorities delegated by the chain-of-command.

Decontamination

A decontamination plan will be established for any applicable job site to which RUDTUK employees are assigned.

The decontamination plan should:

- Determine the number and layout of required stations
- Determine the equipment needed
- Determine appropriate methods
- Establish procedures to prevent contamination of clean areas
- Establish methods and procedures to minimize worker contact with contaminants during removal of personal protective equipment
- Establish methods for disposing of clothing and equipment that are completely decontaminated
- Determine an appropriate geographical location that will minimize the exposure of uncontaminated equipment or employees to contaminated equipment or employees.
- Whenever applicable, regular showers and change rooms must be provided outside of the decontamination area.

Although it is the objective of this program to prevent the need for decontamination of any employees, RUDTUK employees will be trained on the procedures to follow should they ever become contaminated. Employees, their equipment, and clothing must be properly decontaminated, or disposed of, before leaving a contaminated area. Unauthorized employees shall never remove protective clothing or equipment from the site.

In the event of an emergency, the site safety and health supervisor must monitor the decontamination procedure to ensure it is effective.

Records

For each employee, all training and medical surveillance records, including the methods used for training, will be maintained for the duration of employment plus an additional 12 months thereafter.

Post-Emergency Response

RUDTUK does not have the equipment or facilities to remove and properly dispose of hazardous substances. If the incident commander determines it is necessary to remove hazardous substances, health hazards and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the job site, a sub-contractor must be contracted to remove the affected material.

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HAZWOPER/ Resource Conservation Recovery Act - US

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Hydrogen Sulfide (H₂S)

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding the exposure to Hydrogen Sulfide Gas (H₂S) **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Management shall ensure that all employees are in compliance with this program and are trained annually or as needed in Hydrogen Sulfide Awareness.

Employees shall adhere to this policy at all times.

POLICY

Potential Exposure

Hydrogen Sulfide is a nearly ubiquitous, acute acting toxic substance. **It is one of the leading causes of death in the workplace.** Occupational exposures to hydrogen sulfide may be found in all places of employment. Some of the area/activities in which The Company employees might be potentially exposure to hydrogen sulfide are as follows:

- Drilling operations:
 - Recycled drilling mud;
 - Water portion from the sour crude wells;
 - Blow outs (infrequent).
- Tank gauging (the opening of the tank hatch to measure the liquid level in the tank can result in the release of build-up hydrogen sulfide):
 - Run-down tanks;
 - Storage tanks at pipeline stations;
 - Crude oil storage tanks in refineries;
 - Storage tanks for intermediate and finished products;
 - Field maintenance of wells.
- Entry into closed spaces including trenches, Pits, Process vessels, and tanks.
- Leaks in pumps or lines.
- Stripping of hydrogen sulfide and carbon dioxide from crude oil at the oil field and at the refinery.
- Injection of sour gas back into formation to stimulate oil production.
- Asphalt storage and associated operations.

CHARACTERISTICS OF H₂S

General Properties

Hydrogen Sulfide or sour gas (H₂S) is a flammable, colorless gas that is toxic at extremely low concentrations. It is heavier than air and may accumulate in low-lying areas. It smells like 'rotten eggs' at low concentrations and causes you to quickly lose your sense of smell and a significant property of the gas is its temporary paralytic effect on the olfactory nerve. Hydrogen Sulfide is toxic, colorless, with the odor of rotten eggs at low concentrations, is soluble in water and it is flammable.

Byproducts

Iron sulfide is a byproduct of many production operations and may spontaneously combust with air. Flaring operations associated with H₂S production will generate Sulfur Dioxide (SO₂), another toxic gas.

Health Effects of H₂S

Hydrogen sulfide is an extremely toxic and irritating gas. In sufficiently high concentrations it can cause instant death by blocking the oxidative processes of tissue cells and by reducing the oxygen-carrying capacity of the blood. Free hydrogen sulfide in the blood depresses the nervous system and larger amounts can paralyze the nervous system so that in acute poisoning death is due to respiratory failure and asphyxiation.

Hydrogen sulfide is irritating to the eyes and respiratory tract. The eye irritations--conjunctivitis, pain, lacrimation, and photophobia--may persist for several days.

Respiratory tract symptoms include coughing, pain in breathing, and pain in the nose and throat. Repeated exposures to hydrogen sulfide can result in chronic poisoning that can include:

- Eye irritation
- Respiratory tract irritation
- Slow pulse rate
- Lassitude, digestive disturbances, and
- Cold sweats occur

The temporary paralytic effect on the olfactory nerve is probably its most significant property because high concentrations can cause collapse and death before the odor is detected.

DETECTION AND EXPOSURE

Detectors

Commercially available devices can be used for quantitative estimation of low concentrations of hydrogen sulfide by 'spot-sampling.' These instruments indicate the amount of the gas present by a color change in chemically-coated granules in a narrow glass tube.

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A strip filter paper sampler has been developed for the measurement of hydrogen sulfide. Air is drawn through a lead acetate impregnated tape where the hydrogen sulfide reacts to form lead sulfide. Concentrations are determined by comparing the optical density of the black spot with standards. Each worker will have, on their person at all times, personal or area monitors that alarm when PEL exceeds the preset level of 20 PPM for 1910 or 10 PPM for 1926.

Alarms

Continuous Fixed and/or Portable direct-reading monitor devices shall be installed to assure that complete coverage of the area(s) is achieved. An Industrial Hygiene survey may be required by The Company to accurately determine proper locations of monitors.

When the concentration of 50 ppm or higher a different alarm will signal a spark-proof audible or visual alarm, one in which employees have been trained to recognize and distinguish. This device must have a response time of 20 seconds or less. **Workers in the contaminated area shall be evacuated immediately to safe areas.**

The monitors and alarm systems will be inspected monthly.

Exposure Limits

The Company will ensure that a worker's exposure to H₂S is kept as low as reasonably achievable. An employer must ensure that a worker's exposure to H₂S does not exceed its occupational exposure limit of 10ppm over an 8-hour time period.

A worker may not be exposed to H₂S at a concentration exceeding its ceiling limit of 15 ppm at any time. If a worker must enter a work area with 15 ppm H₂S or greater, the worker must wear supplied air respiratory protective equipment, unless other controls provide better protection.

Safety Precautions

Hydrogen sulfide has an unpleasant odor, characteristic of rotten eggs, and is detectable at low concentrations, however, due to rapid onset of olfactory fatigue and paralysis (inability to smell)

❖ **ODOR SHALL NOT BE USED AS A WARNING MEASURE**

The Company has developed a set specific safety rules and actions which include:

- Legible Hydrogen Sulfide warning sign with yellow flag warning device present.
- Keep a safe distance from dangerous locations if not working to decrease danger.
- Pay attention to audible and visual alarm systems.
- Follow the guidance of the operator representative.
- Keep all safety equipment in adequate working order.
- Store the equipment in accessible locations:
 - An oxygen resuscitator.

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- A properly calibrated, metered hydrogen sulfide detection instrument.

RESPERATOR SPECIFICATIONS

The Company provides respirators when such equipment is required to protect the health of any employee. The Company only provides respirators which are sanctioned and approved for the purpose intended. Listed below are the specifications that all respirators used by The Company employees **and/or subcontractors will meet:**

- Daily Operations:
 - Powered, air-purifying respirator with cartridge(s) providing protection against the H₂S/ (APF = 50).
 - Constant supplied-air respirator*/ (APF = 50).
 - Any self-contained breathing apparatus with a full facepiece. (SCBA).
- Emergency or planned entry into unknown concentrations:
 - Self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode/ (APF = 10,000).
 - Constant supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus/ (APF = 10,000).
- Escape:
 - Air-purifying, full-facepiece respirator with a chin-style, front or back mounted canister providing protection against the H₂S/ (APF = 50)
 - Appropriate escape-type, self-contained breathing apparatus/ (APF = 50).

SAFETY PROCEDURES

All employees must be aware of The Company's contingency plan as well as the client's contingency plan.

Implementation of The Company's contingency plan will include but not limited to:

- Appropriate instruction in the use of hydrogen sulfide safety equipment to all personnel present at all hydrogen sulfide hazard areas.
- Gas detection where hydrogen sulfide may exist.
- Appropriate respiratory protection for normal and emergency use.
- The characteristics, sources, and hazards of Hydrogen Sulfide.
- Proper use of the Hydrogen Sulfide detection methods used on the site.
- Recognition of, and proper response to, Hydrogen Sulfide warnings at the workplace.
- Symptoms of Hydrogen Sulfide exposure.
- Proper rescue techniques and first-aid procedures to be used in a Hydrogen Sulfide exposure.
- Proper use and maintenance of personal protective equipment. Demonstrated proficiency in using PPE should be required.

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- Worker awareness and understanding of workplace practices and maintenance procedures to protect personnel from exposure to hydrogen sulfide.
- Wind direction awareness and routes of egress.
- Confined space and enclosed facility entry procedures.
- Locations and use of safety equipment.
- Locations of safe briefing areas.
- Use and operation of all Hydrogen Sulfide monitoring systems.
- Emergency response procedures, corrective action, and shutdown procedures.
- Effects of Hydrogen Sulfide on the components of the Hydrogen Sulfide handling system.
- The importance of drilling fluid treating plans prior to encountering Hydrogen Sulfide.

The Company provides training so that all employees whose work is regulated by this section acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned.

Training received by each affected employee occurs:

- Before the employee is first assigned duties under this section;
- Before there is a change in assigned duties;
- Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;

TRAINING

The Company will ensure that a worker who may be exposed to H₂S:

- Is informed of the health hazards associated with exposure to that substance,
- Is informed of measurements made of airborne concentrations of harmful substances at the work site, and
- Is trained in procedures developed by the employer to minimize the worker's exposure which will include but not be limited to proper use of H₂S detectors (bump testing and calibration), monitors, respiratory protection and personal protection equipment.

Training will be conducted in a classroom setting and will be required initially prior to commencing work and be given annually thereafter. Training instruction will be concluded upon demonstration of competency but not be less than 4 hours.

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In the Event of a Release of H₂S, the following steps shall be followed:

FIVE STEPS TO TAKE DURING H₂S EMERGENCY

Step One: Evacuate immediately. An H₂S alarm indicates that there may be hazardous concentrations in the building or area. Get to a safe new area immediately by moving upwind or crosswind from the release. Move to higher ground in possible.

Step Two: Sound the alarm. Immediately notify someone that there is an H₂S release, relay any information you may have and that you may require assistance.

Step Three: Assess the situation. Do a head count and consider other hazards.

Step Four: Protect rescue personnel. Put on SCBA/SABA to protect rescue personnel. If necessary, shut down the plant.

Step Five: Rescue victim. Start by ventilating the building with fans or by opening all doors. If safe, you may perform the rescue by yourself with backup or with assistance. Enter the area and remove the victim to fresh air (upwind if possible).

Step Six: Revive victim. Apply artificial respiration or CPR on the victim until the victim revives or until help arrives. Only qualified personnel may use mechanical resuscitators or oxygen.

Step Seven: Get medical aid. All H₂S victims require medical attention. Even if they revive quickly, there is still a possibility that the lungs may collect fluid some hours after exposure. Arrange a transport of the victim to medical aid and provide the necessary information to Emergency Medical Services.

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Hydrogen Sulfide (H₂S) - US

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Incident Investigation and Reporting

PURPOSE

The purpose of this document is to outline and set forth effective procedures for reporting, evaluating and investigating incidents and non-conformances in order to prevent further occurrences for **RUDTUK** personnel; hereafter referred to as "The Company."

RESPONSIBILITIES

Responsibilities for incident investigation and reporting/evaluation shall be assigned prior to the occurrence of an incident. Individual responsibilities for reporting and investigation must be pre-determined and assigned prior to incidents.

The Company – shall ensure investigations are conducted and shall assist in the identification and implementation of corrective actions.

Foreman, Supervisors and Managers – shall investigate, or assist in, incident investigations and address/correct any non-conformances. Foreman, Supervisors and Managers, acting on behalf of The Company, will send injured employees to a licensed medical provider for initial treatment.

Personnel/Employees – shall immediately report any injury, incident or job-related illness, spill or damage to any property to their immediate supervisor. If their immediate supervisor is not available, the employee is then to immediately notify the project manager or equivalent personnel. Employees who could be first responders shall be trained and qualified in first aid techniques to control the degree of loss during the immediate post-incident phase.

POLICY

All incidents will be investigated by the responsible safety office, or owner of The Company. The extent of such investigation shall reflect the seriousness of the incident utilizing a root cause analysis or other similar method.

Reporting the incident shall occur in a specified manner and the reporting sequence shall be posted. The Company shall verbally report required incidents to OSHA within eight hours and shall report to the customer (owner client) as soon as reasonably possible or within 24 hours of the incident.

The Company shall report to OSHA any work-related incidents resulting in the death of an employee or the hospitalization of one or more employees. All incidents shall be reported to

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customers (owner clients) including, but not limited to injuries (Including the loss of an eye or limb), spills, property damage, fires, explosions and vehicle damage.

All personnel shall be trained in their roles and responsibilities for incident response and incident investigation techniques. In addition, training requirements relative to incident investigation/reporting (awareness, first responder, investigation and training frequency) will be identified.

Equipment may include some or all of the following items: pens/paper, measurement equipment such as tape measures and rulers, cameras, small tools, audio recorders, PPE, marking devices such as flags, equipment manuals, etc.

Employees who could be first responders will be trained and qualified in first aid techniques to control the degree of loss during the immediate post-incident phase.

After immediate rescue, actions to prevent further loss will occur. For example, maintenance personnel will be summoned to assess integrity of buildings and equipment, engineering personnel to evaluate the need for bracing of structures, and special equipment and response requirements such as safe rendering of hazardous material or explosives employed

The identification/investigation of evidence immediately following the incident shall include a listing of people, equipment and material involved and a recording of environmental factor such as weather, illumination, temperature, noise, ventilation, etc.

The evidence such as people, positions of equipment, parts and papers will be preserved, secured and collected through notes, photographs, witness statements, flagging and impoundment of documents and equipment. All witness will be interviewed, and statements will be collected. Locating witnesses, ensuring unbiased testimony, obtaining appropriate interviews will be detailed. Follow-up interviews will also be addressed.

Incident investigations will result in corrective actions, individuals will be assigned responsibilities relative to the corrective actions, and these actions will be tracked to closure. A written incident report will be prepared and include an incident report form and a detailed narrative statement concerning the event. The format of the narrative report will include an introduction, methodology, summary of the incident, investigation board member names, narrative of the event, findings and recommendations. Photographs, witness statements, drawings will be included. Lessons learned will be reviewed and communicated. Changes to processes will be in place to affect the prevention reoccurrence or similar events.

Writing equipment such as pens/paper, measurement equipment such as tape measures and rulers, cameras, small tools, audio recorder, PPE, marking devices such as flags, equipment manuals, etc. will be made available to all employees to use for completing JSA/JHA forms as well as incident and accident investigations.

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MEDICAL TREATMENT AND RESUMPTION OF WORK

- **Minor injury:** If the injury can be treated through application of first aid techniques either at the work location or through the designated panel providers or pre-designated healthcare professional, the employee returns immediately to his normal duties.
- **More serious injury:** Employees, who experience an injury/illness which requires care beyond first aid, must be seen by the designated panel providers, unless they have pre-designated another provider. In case of serious or life-threatening injury, Public Safety may opt to arrange transport to an Emergency Room.
- In all cases, the "Work Status Report" serves as authorization to receive said treatment. d. The healthcare provider completes the "Work Status Report" with directions to the employee and his supervisor on required follow up including directions to:
 - Return to work with no restrictions
 - Return to work with modifications
 - Remain off work for a specified duration.
- The employee must return the "Work Status Report" to their supervisor. If the healthcare provider has directed the employee to remain off work; the employee must notify their supervisor immediately by telephone and return the report as soon as possible

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1. Employee Information				
<i>Employee Name</i>	<i>Department</i>	<i>Job Title</i>	<i>Supervisor</i>	
2. Related Specific Information				
<i>Type (Check box)</i>	<i>Date</i>	<i>Time</i>	<i>Location/Work Area</i>	<i>Shift</i>
<input type="checkbox"/> Near Miss				
<input type="checkbox"/> First Aid				
<input type="checkbox"/> Medical Treatment				
<input type="checkbox"/> Fatality				
<input type="checkbox"/> Other				
3. Visible Surface Cause – What caused the incident/accident to occur?				
4. Root Cause Analysis (check all that apply)				
<i>Unsafe Acts</i>	<i>Unsafe Conditions</i>	<i>System Deficiency(ies)</i>		
<input type="checkbox"/> Improper work technique	<input type="checkbox"/> Poor workstation design or layout	<input type="checkbox"/> Lack of written procedures		
<input type="checkbox"/> Safety policy violation	<input type="checkbox"/> Congested work area	<input type="checkbox"/> Safety policies not enforced		
<input type="checkbox"/> Improper PPE/PPE not used	<input type="checkbox"/> Hazardous substances	<input type="checkbox"/> Hazards not identified		
<input type="checkbox"/> Operating without permit	<input type="checkbox"/> Fire or explosion hazard	<input type="checkbox"/> PPE unavailable		
<input type="checkbox"/> Failure to warn or secure	<input type="checkbox"/> Inadequate ventilation	<input type="checkbox"/> Insufficient worker training		
<input type="checkbox"/> Operating at improper speeds	<input type="checkbox"/> Improper material storage	<input type="checkbox"/> Insufficient supervisor training		
<input type="checkbox"/> By-passing safety devices	<input type="checkbox"/> Improper tool or equipment	<input type="checkbox"/> Improper maintenance		
<input type="checkbox"/> Guards not used	<input type="checkbox"/> Insufficient knowledge of job	<input type="checkbox"/> Inadequate supervision		
<input type="checkbox"/> Improper loading or placement	<input type="checkbox"/> Slippery conditions	<input type="checkbox"/> Inadequate job planning		
<input type="checkbox"/> Improper lifting	<input type="checkbox"/> Poor housekeeping	<input type="checkbox"/> Inadequate hiring practices		
<input type="checkbox"/> Servicing machinery in motion	<input type="checkbox"/> Excessive noise	<input type="checkbox"/> Inadequate workplace inspection		
<input type="checkbox"/> Horseplay	<input type="checkbox"/> Inadequate guarding of hazards	<input type="checkbox"/> Inadequate equipment		
<input type="checkbox"/> Drug or alcohol use	<input type="checkbox"/> Defective tools/equipment	<input type="checkbox"/> Unsafe design or construction		
<input type="checkbox"/> Unnecessary haste	<input type="checkbox"/> Insufficient lighting	<input type="checkbox"/> Unrealistic scheduling		
<input type="checkbox"/> Unsafe act of others	<input type="checkbox"/> Inadequate fall protection	<input type="checkbox"/> Poor process design		
<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Other (specify):		
5. Analysis – Why did this occur? (Answer the question of why five times)				
Why -				
6. Required Corrective/Preventative Actions				
<i>Action Item Detail</i>	<i>Responsible Party</i>	<i>Target Date</i>		
7. Required Concurrences				
<i>Title</i>	<i>Print Name</i>	<i>Signature</i>	<i>Date</i>	
Investigator/Supervisor				
Department Manager				
Department Safety Coordinator				

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Injury and Illness Prevention Plan/Recordkeeping

RESPONSIBILITIES

Safety Officer

- Shall act as the Injury and Illness Prevention Program (IIPP) administrator.
- **HSE Manager** has the authority and responsibility for implementing the provisions of this program for **RUDTUK**; hereafter referred to as "The Company."

Management

- Shall implement and maintain the IIPP in their work areas.
- Shall answer worker questions about the Program.

A copy of this IIPP is available in the office.

COMPLIANCE

Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated and understood by all employees. **Supervisors** and lead personnel are expected to enforce the rules fairly and uniformly.

All employees are responsible for using safe work practices, for following all directives, policies and procedures, and for assisting in maintaining a safe work environment.

The following is our system of ensuring that all workers comply with the rules and maintain a safe work environment:

- Informing workers of the provisions of our IIPP;
- Evaluating the safety performance of all workers;
- Recognizing employees who perform safe and healthful work practices. This recognition is accomplished by: Employees who make a significant contribution to the maintenance of a safe workplace, as determined by their supervisors, will receive written acknowledgment of such contributions which is maintained in the employees' personnel files;
- Providing training to workers whose safety performance is deficient;
- Disciplining workers for failure to comply with safe and healthful work practices. The following outlines our disciplinary process: When it becomes necessary, our company reserves the right to discipline employees who knowingly violate company safety rules or policies.
- Disciplinary measures will include, but are not limited to:
 - Verbal warning (documented) for minor offenses;
 - Written warning for more severe or repeated violations;

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- Suspension without pay, if verbal and written warnings do not prove to be sufficient.

If none of the above measures achieve satisfactory corrective results, and no other acceptable solution can be found, The Company will have no choice but to TERMINATE employment for those who continue to jeopardize their own safety and the safety of others.

Other means that we use to ensure employee compliance with safe and healthful work practices include:

- Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated and understood by all employees.
- Managers and superintendents are expected to enforce the rules fairly and uniformly.
- All employees are responsible for using safe work practices, for following all directives, policies and procedures, and for assisting in maintaining a safe work environment.

Our system of ensuring that all workers comply with the rules and maintain a safe work environment include:

- Informing workers of the provisions of our IIP Program;
- Evaluating the safety performance of all workers;
- Recognizing superintendents who perform safe and healthful work practices;
- Providing training to workers whose safety performance is deficient;
- Disciplining workers for failure to comply with safe and healthful work practices;
- Terminating any employee who receives more than two written warnings.

COMMUNICATION

The following is our system of communication; designed to facilitate a continuous flow of two-way (management, supervision and employees) safety and health information in a form that is readily understandable to and between all affected site personnel:

- New worker orientation, including a discussion of site-specific safety and health policies and procedures.
- Follow-through by supervision to ensure effectiveness.
- Workplace-specific safety and health training.
- Safety meetings held at least every ten (10) working days in each department, by the department supervisor. These meetings will be short (5-10 minutes) and will cover 1 or 2 specific topics. Safety meetings are required by OSHA as a means to successfully communicate important information to employees, as well as promote safety awareness. These meetings will be documented using the [OSHA Form 301](#). Our company will also hold company-wide safety meetings with all employees once every three months to provide information concerning major issues in the field of

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safety as it pertains to the plumbing industry. – more frequently as deemed necessary by the creation of hazards or occurrence of injuries and illnesses.

- Effective communication of safety and health concerns between workers and supervisors, including language translation where appropriate.
- Posted and distributed safety information.
- A system for workers to anonymously inform management about workplace hazards. This is accommodated by Managers, supervisors, and employees will report any hazardous conditions or activities noted:
 - As a result of the formal monthly or quarterly inspections, and;
 - During daily routine operations. Hazards can be reported to their supervisors anonymously. There will be a safety suggestion box at each location where notices can be deposited.
- Vehicle and site-specific codes of safe work practices.
- Other means we use to ensure communication with employees include:
 - We recognize that open, two-way communication between management and employee on health and safety issues is essential to an injury-free, productive workplace.
- The following system of communication is designed to facilitate a continuous flow of safety' and health information between management and employee in a form that is readily understandable and consists of the following items:
 - We will conduct new worker orientation including a discussion of safety and health policies and procedures, as well as our IIP Program;
 - An authorized instructor will conduct workplace safety and health training;
 - Superintendent will conduct "Tailgate" meetings once every ten working days;
 - Posting and/or distributing safety information;
 - A suggestion box is available at every jobsite for workers to report hazards, anonymously.
- General safe work practices with specifics with respect to hazards unique to the employees' job assignment.

HAZARD ASSESSMENT

Periodic inspections to identify and evaluate workplace hazards shall be performed by Supervisors according to the following schedule:

1. When our Injury and Illness Prevention Program was first established;
2. At least Identification of workplace hazards will be accomplished through a cooperative effort between management, supervisors, employees and safety consultants.
3. Responsibility and accountability for effective hazard identification will be placed on all employees, at all levels. The methods employed will include:
 - a. Monthly company location inspections of the shops, yards, storage areas, equipment, rolling stock and office areas. The Safety Director and/or the Safety Consultant will perform these inspections.

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- b. Weekly job site inspections; performed by the Safety Director, Safety Supervisors and/or the Safety Consultant. Each location will perform at least one job site inspection each week. Inspections shall be made to identify and evaluate hazards:
 - i. When this program is first established,
 - ii. Whenever new substances, processes, procedures or equipment are introduced to the workplace that represent a new occupational safety and health hazard, and
 - iii. Whenever we are made aware of a new or previously unrecognized hazard. prior to beginning of the shifts;
4. When new substances, processes, procedures or equipment that present potential new hazards are introduced into our workplace;
5. When new, previously unidentified hazards are recognized;
6. When occupational injuries and illnesses occur;
7. When we hire and/or reassign permanent or intermittent workers to processes, operations, or tasks for which a hazard evaluation has not been previously conducted; and
8. Whenever workplace conditions warrant an inspection.

Periodic inspections consist of identification and evaluation of workplace hazards utilizing applicable sections of the attached Hazard Assessment Checklist*, and any other effective methods to identify and evaluate workplace hazards.

ACCIDENT/EXPOSURE INVESTIGATIONS

Accident investigation is a systematic method for collecting factual information that makes it possible to accurately reconstruct the accident and determine the underlying reasons for the cause of the accident. The investigation is fact-finding, not fault finding. A Competent Person will do investigation of workplace accidents, hazardous substance exposures and near-accidents. Once the primary causes for the accident have been determined, preventative measures can be identified and effectively instituted. Each supervisor has a prominent role in conducting an accident investigation.

The responsibility for conducting an accident investigation includes collecting the facts, determining the sequence of events that resulted in the accident, identify action to prevent recurrence, and provide follow-up to ensure that corrective action was effective. All accidents should be investigated promptly regardless of their severity. Promptness of the investigation is essential since conditions at the accident scene change. Moreover, witnesses are more likely to relate circumstances as they were, without the added conjecture that comes late from discussions of the accident with other employees. Promptness in checking the scene assures employees that management is highly concerned for their wellbeing. The type of investigation depends on the nature and magnitude of the accident. Each department supervisor/manager shall promptly

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investigate, thoroughly analyze, and report in writing to The Safety Officer all accidents involving personal injury and/or property damage or the potential there for, once they occur.

Accident investigation reports shall be submitted within 24 hours of the first notice to the supervisor/manager., and will include:

- Visiting the scene as soon as possible;
- Interviewing affected workers and witnesses;
- Examining the workplace for factors associated with the accident/exposure/near-accident;
- Determining the causes of the accident/exposure/near-accident;
- Taking corrective action to prevent the accident/exposure/near-accident from reoccurring; and
- Recording the findings and corrective actions taken on the [OSHA Form 301](#).

HAZARD CORRECTION

Unsafe or unhealthy work conditions, practices or procedures at our work facilities shall be corrected in a timely manner based on the severity of the hazards, and according to the following procedures:

- When observed or discovered;
- When an imminent hazard exists, which cannot be immediately abated without endangering employee(s) and/or property, we will remove all exposed workers from the area except those necessary to correct the existing condition. Workers necessary to correct the hazardous condition shall be provided with the necessary protection; and
- All such actions taken and dates they are completed shall be documented on the attached Identified Hazards and Correction Record.

TRAINING AND INSTRUCTION

All workers, including management, supervisors, and lead personnel shall have training and instruction on general and job-specific safety and health practices.

Training and instruction shall be provided as follows:

- When the IIPP is first established;
- To all new workers;
- To all workers given new job assignments for which training has not previously provided;
- Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard;
- Whenever we become aware of a new or previously unrecognized hazard;
- To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed; and

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- To all workers with respect to hazards specific to each employee's job assignment.

This training will include (but is not limited to):

- Explanation of our IIPP, emergency actions plan and fire prevention plans, and measures for reporting any unsafe conditions, work practices, injuries and when additional instruction is needed.
- Availability of toilet, hand-washing, and drinking water facilities.
- Provisions for medical services and first aid, including emergency procedures.
- Proper housekeeping, such as keeping stairways and isles clear, work areas neat and orderly, and promptly cleaning up spills.
- Prohibiting horseplay, scuffling, or other acts that adversely influence safety.
- Proper storage to prevent:
 - Stacking goods in an unstable manner
 - Storing materials and good against doors, exits, for extinguishing equipment and electrical panels.

Where applicable our training may also include:

- Prevention of musculoskeletal disorders, including proper lifting techniques.
- Use of appropriate clothing, including gloves, footwear, and personal protective equipment.
- Information about chemical hazards to which employees could be exposed and other hazard communication program information.
- Proper food and beverage storage to prevent them from becoming contaminated.

In addition, we provide specific instructions to all workers regarding hazards unique to their job assignment, to the extent that such information was not already covered in other training.

RECORDKEEPING

Written IIPP and Documentation Requirements

Our organization has taken the following steps to implement and maintain our IIPP:

1. Records of scheduled and periodic inspections including the person(s) conducting the inspection, the workplace hazards (i.e., unsafe conditions and work practices that have been identified) and the action(s) taken to correct the identified unsafe conditions and work practices, are recorded on the Hazard Assessment Checklist* and the Identified Hazards and Correction Record* and the Investigation/Corrective Action Report*. These records are maintained for at least one (1) year.
2. Documentation of safety and health training for each worker, including the worker's name or other identifier, training dates, type(s) of training, and training providers are recorded on the Worker Training and Instruction Record*. This documentation is maintained for at least one (1) year.

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In accordance with OSHA regulations, The Company will keep records of fatalities, injuries and illnesses. Specifically, The Company will keep record of each fatality, injury and illness that:

- Is work-related; and
- Is a new case; and
- Meets one or more of the general recordkeeping criteria.

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

A company executive must certify that he or she has examined the OSHA 300 Log and that he or she reasonably believes, based on his or her knowledge of the process by which the information was recorded, that the annual summary is correct and complete. The reviewing executive must sign the OSHA 300 Summary.

Posting

A copy of the annual summary must be posted in each establishment in a conspicuous place or places where notices to employees are customarily posted. The Company will ensure that the posted annual summary is not altered, defaced or covered by other material.

The Company will post the annual summary no later than February 1st of the year following the year covered by the records and the posting kept in place until April 30th.

The OSHA 300 Log, the privacy case list (if one exists), the annual summary, and the OSHA 301 Incident Report forms must be retained for five (5) years following the end of the calendar year that these records cover.

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Ladder Safety

PURPOSE

The purpose of this document is to outline the Ladder Safety Program for **RUDTUK**; hereafter referred to as "The Company." This program will establish guidelines for the safe use of ladders throughout worksites by employees, personnel and contractors.

This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry ([29 CFR 1910.25-27](#)) and Occupational Safety and Health Standards for the Construction Industry ([29 CFR 1926.1053](#)).

RESPONSIBILITIES

Managers/Unit Heads

- Ensuring that adequate funds are available and budgeted for the purchase of ladders in their areas.
- Shall obtain and coordinate the required training for the affected employees.
- Ensure compliance with this safety policy and procedure through their auditing process.

Supervisors

- Ensuring that all ladders (fixed and portable) are regularly inspected and properly maintained.
- Tagging ladders in need of repair and removing defected ladders from service for repair or destruction.
- Supervisors will audit for compliance with this safety policy and procedure during their facility and jobsite audits.

Employees

- Employees shall comply with all applicable guidelines contained in this safety policy and procedure.
- Employees are also responsible for reporting immediately suspected unsafe conditions or ladders to their supervisor.
- Shall inspect ladders before using and are to keep ladders clean and in good condition.

Safety Officer

- Safety Officers will provide prompt assistance to managers/unit heads, supervisors or others as applicable on any matter concerning this safety policy and procedure.
- Assist in developing or securing of required training.

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- Provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure.
- Work with Purchasing Department to ensure that all newly purchased ladders comply with this safety policy and procedure and current safety regulations.

TRAINING

Employees using the ladders shall be trained in:

- The proper use of the ladders
- What kind of ladder to use?
- How to set up ladders
- Ladder inspection
- Proper maintenance

This training shall be done upon initial employment and/or job assignment. Refresher training shall be provided to employees at the discretion of their supervisor.

LADDER HAZARDS AND SAFE USE

Ladder Hazards

There are inherent hazards associated with ladder use. Typical ladder hazards include:

- Insufficient surface resistance on ladder rungs and steps
- Ladder structural failure
- Ladders tipping sideways, backwards, or slipping out at the bottom
- Ladder spreaders not fully opened and locked, causing the ladder to "walk," twist or close up when a load is applied to the ladder
- Using metal ladders around electricity
- Using deteriorated ladders
- Using fixed ladders without cages or fall protection

Safe Ladder Use

Employees should follow certain rules when placing, ascending, and descending ladders which include:

- Hold on with both hands when going up or down. If material must be handled, raise or lower it with a rope either before going down or after climbing to the desired level.
- Always face the ladder when ascending or descending.
- Never slide down a ladder.
- Be sure shoes are not greasy, muddy, or slippery before climbing.
- Do not climb higher than the third rung from the top on straight or extension ladder, or the second tread from the top on stepladders. (Never stand on the top two rungs of a step ladder.)

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- Carry tools on a tool belt not in the hand and never carry objects that could cause injury in the event of a fall.
- Never lean too far to the sides. Keep your belt buckle within the side rails.
- Use a 4 to 1 ratio when leaning a single or extension ladder. (place a 12-foot ladder so that the bottom is 3 feet away from the object the ladder is leaning against.)
- Inspect ladder for defects before using.
- Never use a defective ladder. Tag or mark it so that it will be repaired or destroyed.
- Never splice or lash a short ladder together.
- Never use makeshift ladders, such as cleats fastened across a single rail.
- Be sure that a stepladder is fully open, and the metal spreader locked before starting to climb.
- Keep ladders clean and free from dirt and grease.
- Never use ladders during a strong wind except in an emergency and then only when they are securely fastened.
- Never leave placed ladders unattended.
- Never use ladders as guys, braces, or skids, or for any other purpose other than their intended purposes.
- Never attempt to adjust a ladder while a user is standing on the ladder.
- Never jump from a ladder. Always dismount from the bottom rung.
- Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond the manufacturer's rated capacity.
- Ladders shall be used only for the purpose for which they were designed. Never use ladder in a horizontal position or as scaffolding, do not place ladders on top of boxes, barrels, crates, etc.

Ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder. (The distance along the ladder between the foot and the top support.)

LADDER SAFETY DEVICES

Safety devices are available for both portable and fixed ladders to prevent a climber from falling. Safety devices for portable ladders include slip-resistant bases, safety tops, and any other device to increase the ladder stability. A portable ladder positioned at a location where it may be tipped over by work activities shall be securely fastened at the bottom and top. Safety devices for fixed ladders include cages (which enclose the stairwell) or a restraint belt attached to a sliding fixture anchored to the ladder.

LADDER INSPECTION

Ladders shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.

An inspection program should be set up by which all ladders are inspected once every three months. Appendix B presents a general inspection form. Ladders that are weak, improperly repaired, damaged, have missing rungs, or appear unsafe shall be removed from the job or site for repair or disposal. Before discarding a wood ladder, cut it up so no one can use it again. Additionally, portable ladders must be maintained in good condition at all times and inspected frequently. Tag any ladders that have developed defects with DANGEROUS--DO NOT USE and remove from service for repair or disposal.

For portable wood ladders, all wood parts shall be free from sharp edges and splinters; sound and free from accepted visual inspection from shake, wane, compression failures, decay, or other irregularities. For portable metal ladders, the design shall be without structural defects or accident hazards such as sharp edges, burrs, etc. The selected metal shall be of sufficient strength to meet the test requirements and shall be protected against corrosion. For fixed ladders, all wood parts shall meet the criteria of wood ladders. All metal parts shall meet the criteria of metal ladders.

MAINTENANCE

Portable wood ladders may be coated with a water-repellent preservative to provide a suitable protective material. Metal ladders and metal parts on wood ladders should be corrosion-resistant and kept free from nicks. If nicks occur, they should be promptly treated to prevent possible metal fatigue due to rust.

Portable and fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn from service until repaired.

The ladder side rails shall extend at least 3 feet (.9m) above the upper landing surface. When ladders are not able to be extended then the ladder shall be secured at its top to a rigid support that will not deflect.

LADDER INSPECTION CHECKLISTS

All Ladders

- Loose steps or rungs are considered loose if they can be moved at all with the hand
- Loose nails, screws, bolts, or other metal parts
- Cracked, split, or broken uprights, braces, steps, or rungs
- Splinters on uprights, rungs, or steps
- Damaged or worn non-slip bases
- Rusted or corroded spots

Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced, when the ladder is in position.

Ladders used by The Company's employees must meet OSHA/ANSI specifications.

Stepladders

- Wobbly from side strain
- Loose or bent hinge spreaders
- Stop on hinge spreaders broken
- Broken, split, or worn steps
- Loose hinges

Extension Ladders

- Loose, broken, or missing extension locks
- Defective locks that do not seat properly when the ladder is extended
- Deterioration of rope, from exposure to weather, acid or other destructive agents

Fixed Ladders

- Loose, worn, or damaged rungs or side rails
- Damaged or corroded parts of cage
- Corroded bolts and rivet heads on inside of metal stacks
- Damaged or corroded handrails or brackets on platforms
- Weakened or damaged rungs on brick or concrete slabs
- Base of ladder obstructed

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Lead Awareness

PURPOSE

The purpose of this document is to outline the Lead Awareness safety policy for **RUDTUK**; hereafter referred to as "The Company." The objective of this program is to protect employees from lead contamination and to be in compliance with OSHA Standard [29 CFR 1910.1025](#).

RESPONSIBILITIES

Safety Officer

- Entire lead safety program, including semi-annual revisions and updates to reflect the current status of the program
- Engineering and administrative controls for lead exposure
- Employee training and awareness
- Medical surveillance program administration
- Respiratory protection program administration as it relates to Lead
- Lead disposal program
- Housekeeping program
- Protective clothing issue, storage and disposal

Management

- Provide effective and continuous control of all lead operations
- Immediately inform management of any deficiencies in engineering or administrative controls
- Conduct routine assigned inspections and monitoring
- Immediately correct any deviation from operational safety requirements
- Provide immediate on-the-spot training for any employee who shows lack of knowledge or application of required operational lead safety requirements
- Ensure all employees are properly trained before commencing any operation that may contribute to lead exposure

Employees

- Follow all operational and lead safety procedures
- Seek immediate supervisor guidance to resolve questions
- Conduct operations in accordance with company provided training
- Immediately report to a supervisor any deficiency in engineering or administrative controls
- Properly use, store and dispose of issued and assigned personal protective clothing.
- Maintain change and shower areas neat and orderly

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- Employees must abide by any signs/labels/assessment reports indicating the presence of lead containing materials. Appropriate work practices must be followed to ensure the lead containing materials are not disturbed.

HAZARDS

Pure lead (Pb) is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds. The Permissible Exposure Limit (PEL) set by OSHA is 50 micrograms of lead per cubic meter of air (50 ug/m³), averaged over an 8-hour workday.

Lead can be absorbed by inhalation (breathing) and ingestion (eating). Lead is not absorbed through your skin. When lead is scattered in the air as a dust, fume or mist it can be inhaled and absorbed through the lungs and upper respiratory tract. Lead can also be absorbed through the digestive system if swallowed. Handling food, cigarettes, chewing tobacco, or make-up which have lead contamination or handling them with hands contaminated with lead, will contribute to ingestion.

Some possible locations of lead containing materials are leaded paints, leaded solders, pipes, batteries, circuit boards, cathode ray tubes, leaded glass, and demolition/salvage materials.

A significant portion of inhaled or ingested lead goes into the blood stream. Once in the blood stream, lead is circulated throughout the body and stored in various organs and body tissues. Some of this lead is quickly filtered out of the body and excreted, but some remains in the blood and other tissues. As exposure to lead continues, the amount stored in the body will increase. Lead stored in body tissues can cause irreversible damage, first to individual cells, then to organs and whole-body systems.

SHORT TERM EFFECTS OF OVER EXPOSURE TO LEAD

Lead is a potent, systemic poison. Taken in large enough doses, lead can kill in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardiorespiratory arrest. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.

Common symptoms of acute lead poisoning are loss of appetite, nausea, vomiting, stomach cramps, constipation, difficulty in sleeping, fatigue, moodiness, headache, joint or muscle aches, and anemia. Long term (chronic) overexposure to lead may result in severe damage to the blood-forming, nervous, urinary, and reproductive systems.

LONG TERM EFFECTS OF OVER EXPOSURE TO LEAD

Chronic overexposure to lead may result in severe damage to blood-forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain.

MONITORING

Initial Determination

The Company has made an initial determination of lead work areas and exposure levels and will conduct subsequent "initial determinations" in the event of changes to hazard control methods or operational processes that affect employee or environmental exposure. Initial determinations are conducted to determine if any employee may be exposed to lead at or above the action level of 30 micrograms per cubic meter of air (30 ug/m (3)) averaged over an 8-hour period.

Where a determination is made that no employee is exposed to airborne concentrations of lead at or above the action level, The Company shall maintain a written record. The record shall include quantitative sampling data, date of determination, location within the worksite, and the name and social security number of each employee monitored.

Monitoring Requirements

- Monitoring and analysis methods shall have an accuracy (to a confidence level of 95%) of not less than plus or minus 20 percent for airborne concentrations of lead equal to or greater than 30 ug/m (3).
- Where a determination shows the possibility of any employee exposure at or above the action level, The Company shall conduct monitoring which is representative of the exposure for each employee in the workplace or process area who is exposed to lead.
- For the purposes of monitoring requirements, employee exposure is that exposure which would occur if the employee were not using a respirator.
- Monitoring and sample collection shall cover full shift (for at least 7 continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.
- Full shift personal samples must be representative of the monitored employee's regular, daily exposure to lead.

MONITORING FREQUENCY

The blood sampling and monitoring should be conducted every 6 months until two consecutive blood samples and analysis are acceptable. The sampling and monitoring should be performed at least monthly during the removal period. Any employee with elevated blood levels should be temporarily removed. Employees should be notified in writing within five days when lead levels are not acceptable. The standard requires temporary medical removal with Medical Removal Protection benefits.

At or Above Action Level and Below PEL

Every 6 months if the initial determination or subsequent monitoring reveals employee exposure to be at or above the action level but below the permissible exposure limit. This monitoring (6-month frequency) will continue until at least two consecutive measurements, taken at least 7 days apart, are below the action level.

Above PEL

If the initial monitoring reveals that employee exposure is above the permissible exposure limit The Company will repeat monitoring quarterly. Quarterly monitoring will continue until at least two consecutive measurements, taken at least 7 days apart, are below the PEL but at or above the action level.

Additional Monitoring

Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to lead, or whenever any other reason to suspect a change which may result in new or additional exposures to lead, additional monitoring will be conducted.

EMPLOYEE NOTIFICATION OF MONITORING RESULTS

Within 5 working days after the receipt of monitoring results, each employee will be notified in writing of the results which represent that employee's exposure.

Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the permissible exposure limit, the written notice will include a statement that the permissible exposure limit was exceeded, and a description of the corrective action taken or to be taken to reduce exposure to or below the permissible exposure limit.

OBSERVATION OF MONITORING

The Company provides affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead.

Observation Procedures

Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, The Company will provide the observer with and assure the use of respirators, clothing and equipment required, and will require the observer to comply with all other applicable safety and health procedures.

Without interfering with the monitoring, observers are entitled to:

- Receive an explanation of the measurement procedures
- Observe all steps related to the monitoring of lead performed at the place of exposure
- Record the results obtained or receive copies of the results when returned by the laboratory

ENGINEERING CONTROLS

Where any employee is exposed to lead above the permissible exposure limit for more than 30 days per year, The Company will implement feasible engineering and work practice controls (including administrative controls) to reduce and maintain employee exposure to lead.

Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit, The Company will still use them to reduce exposures to the lowest feasible level and shall supplement them by the use of respiratory protection.

Where any employee is exposed to lead above the permissible exposure limit, but for 30 days or less per year, The Company will implement engineering controls to reduce exposures to 200 ug/m³, but thereafter may implement any combination of engineering, work practice (including administrative controls), and respiratory controls to reduce and maintain employee exposure to lead to or below 50 ug/m³.

MECHANICAL VENTILATION

When ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system in controlling exposure, such as capture velocity, duct velocity, or static pressure shall be made at least every 3 months. Measurements of the system's effectiveness in controlling exposure shall be made within 5 days of any change in production, process, or control which might result in a change in employee exposure to lead.

Recirculation of Air

If air from exhaust ventilation is recirculated into the workplace, the system must include:

- A high efficiency filter with reliable back-up filter; and
- Controls to monitor the concentration of lead in the return air and to bypass the recirculation system automatically if it fails are installed, operating, and maintained.

ADMINISTRATIVE CONTROLS

If administrative controls are used as a means of reducing employees TWA exposure to lead, The Company shall establish and implement a job rotation schedule which includes:

- Name or identification number of each affected employee
- Duration and exposure levels at each job or work station where each affected employee is located
- Other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead

Administrative control information and records will be maintained as an addendum to this written program.

RESPIRATORS

When respirators are used to supplement engineering and work practice controls to comply with the PEL and all other requirements have been met, employee exposure, for the purpose of determining compliance with the PEL, may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure. The respiratory protection program will be conducted in accordance with 29 CFR [1910.134](#) (b) through (d) (except (d)(1)(iii)), and (f) through (m). The Company will provide a powered air-purifying respirator when an employee chooses to use this type of respirator and such a respirator provides adequate protection to the employee.

Respirators Must Be Used During:

- Periods necessary to install or implement engineering or work-practice controls.
- Work operations for which engineering, and work-practice controls are not sufficient to reduce employee exposures to or below the permissible exposure limit.
- Periods when an employee requests a respirator

PERSONAL PROTECTIVE EQUIPMENT

If an employee is exposed to lead above the PEL, without regard to the use of respirators or where the possibility of skin or eye irritation exists, The Company will provide at no cost to the employee appropriate protective work clothing and equipment such as, but not limited to:

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- Coveralls or similar full-body work clothing;
- Gloves, hats, and shoes or disposable shoe coverlets; and
- Face shields, vented goggles, or other appropriate protective equipment

Cleaning and Replacement - The Company will:

- Provide the protective clothing in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over 200 ug/m (3) of lead as an 8-hour TWA.
- Employees' hands and faces should be washed if lead containing materials are contacted.
- Provide for the cleaning, laundering, or disposal of protective clothing and equipment
- Repair or replace required protective clothing and equipment as needed to maintain their effectiveness.
- Assure that all protective clothing is removed at the completion of a work shift only in change rooms provided for that purpose
- Assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of lead outside the container.
- Inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.
- Assure that the containers of contaminated protective clothing and equipment required by paragraph (g)(2)(v) are labeled as follows: CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.
- Prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

HOUSEKEEPING

- All surfaces shall be maintained as free as practicable of accumulations of lead.
- Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air.
- Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
- Where vacuuming methods are used, the vacuums shall be used and emptied in a manner which minimizes the reentry of lead into the workplace.

HYGIENE FACILITIES AND PRACTICES

The following is requirements pertain to all areas where employees are exposed to lead above the PEL, without regard to the use of respirators:

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- No storage or consumption of food or beverages
- No tobacco product storage or use
- No cosmetics stored or used
- No personal clothing or articles, except in authorized change areas

Change Rooms

Clean change rooms are provided for employees who work in areas where their airborne exposure to lead is above the PEL. Change rooms are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination. Employees who are required to shower after work shifts are not allowed to leave the workplace wearing any clothing or equipment worn during the work shift.

Showers

Employees who work in areas where their airborne exposure to lead is above the PEL must shower at the end of each work shift.

Lunchrooms

Separate lunchroom facilities are provided for employees who work in areas where their airborne exposure to lead is above the PEL. These facilities are temperature controlled, have positive pressure and filtered air supply, and are readily accessible to employees. All affected employees must wash their hands and face prior to eating, drinking, smoking or applying cosmetics in the lunchroom area. Employees may not enter lunchroom facilities with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, down draft booth, or other cleaning method.

Lavatories.

An adequate number of separate lavatory facilities are maintained for employees who work in lead-controlled process areas.

SIGNS

Proper signs will be posted at the entrance and exits to all lead hazard areas. No other signs or statements may appear on or near any lead hazard sign which contradicts or detracts from the meaning of the required sign. All lead hazard signs will be kept illuminated and cleaned as necessary so that the legend is readily visible.

The signs will contain the following or other appropriate wording/warning:

**WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING**

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EMPLOYEE TRAINING

Lead awareness training is required for employees whose work activities may contact lead containing materials but do not disturb the material during their work activities. Lead awareness training is required at time of hire, during orientation, or before assignment to areas containing lead. Refresher training must be given annually.

Employee training will consist of:

- Specific OSHA requirements contained in:
 - 29 CFR [1910.1025](#) - OSHA Lead Standard
 - 29 CFR [1910.1025 App A](#) - Substance data sheet for occupational exposure to lead
 - 29 CFR [1910.1025 App B](#) - Employee standard summary
- Specific nature of the operations which could result in exposure to lead above the action level;
- Purpose, proper selection, fitting, use, and limitations of respirators;
- Purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females);
- Engineering controls and work practices associated with the employee's job assignment;
- Contents of The Company compliance plan;
- Instructions that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician;
- Materials pertaining to the Occupational Safety and Health Act

A copy of the OSHA standard 29 CFR [1910.1025](#) and its appendices will be readily available to all affected employees.

Lead awareness training will be documented including dates of training, employee name, and trainer name.

MEDICAL SURVEILLANCE

The Company has instituted a medical surveillance program for all employees who are or may be exposed above the action level for more than 30 days per year. This medical surveillance program and all medical examinations and procedures are performed by or under the supervision of a licensed physician. The program functions under the requirements of OSHA Standard 29 CFR [1910.1025](#). Elements of the program include:

- Biological monitoring

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- Employee notification
- Medical examinations and consultations
- Medical removal protection
- Medical removal protection benefits

RECORD KEEPING

All records relating to The Company lead safety program are to be maintained for at least 40 years or for the duration of employment plus 20 years, whichever is longer. The following records will be established and maintained:

EXPOSURE MONITORING

- Date(s), number, duration, location and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;
- Description of the sampling and analytical methods used and evidence of their accuracy;
- Type of respiratory protective devices worn, if any;
- Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent;
- Environmental variables that could affect the measurement of employee exposure.

MEDICAL SURVEILLIANCE

- The name, social security number, and description of the duties of the employee;
- A copy of the physician's written opinions;
- Results of any airborne exposure monitoring done for that employee and the representative exposure levels supplied to the physician;
- Any employee medical complaints related to exposure to lead;
- A copy of the medical examination results including medical and work history;
- A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;
- A copy of the results of biological monitoring.

MEDICAL REMOVALS

- Name and social security number of the employee;
- Date on each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to his or her former job status;
- Brief explanation of how each removal was or is being accomplished; and

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- Statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.

Reporting Signs and Symptoms of Health Problems

You should immediately notify your supervisor if you develop signs or symptoms associated with lead poisoning or if you desire medical advice concerning the effects of current or past exposure to lead on your ability to have a healthy child. You should also notify your supervisor if you have difficulty breathing during a respirator fit test or while wearing a respirator. In each of these cases The Company will make available to your appropriate medical examinations or consultations. These must be provided at no cost to you and at a reasonable time and place.

EXPOSURE LEVELS

The Company program sets a permissible exposure limit (PEL) of fifty micrograms of lead per cubic meter of air (50 ug/m (3)), averaged over an 8-hour work-day. This is the highest level of lead in air to which you may be permissibly exposed over an 8-hour workday. Since it is an 8-hour average it permits short exposures above the PEL so long as for each 8-hour work day your average exposure does not exceed the PEL. This Company recognizes that your daily exposure to lead can extend beyond a typical 8-hour workday as the result of overtime or other alterations in your work schedule. To deal with this, our program contains the below formula which reduces your permissible exposure when you are exposed more than 8 hours. For example, if you are exposed to lead for 10 hours a day, the maximum permitted average exposure would be 40 ug/m (3).

MULTI-CONTRACTOR WORKSITES

If employees working immediately adjacent to a lead abatement activity are exposed to lead due to the inadequate containment of such job, their employer shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.

SITES

The Company will develop a work site-specific program for each new work site. The site-specific compliance program will address means of engineering and work practice controls, air monitoring, a description of each operation in which lead is emitted. The written program will be revised and updated annually.

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Lead Awareness - US

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Lockout Tagout - Control of Hazardous Energy

PURPOSE

The purpose of this document is to outline the Lockout Tagout Program for **RUDTUK**; hereafter referred to as "The Company." Control of Hazardous energy is the purpose of the Lockout Tagout Program.

This program establishes the requirements for isolation of both kinetic and potential electrical, chemical, thermal, hydraulic and pneumatic and gravitational energy prior to equipment repair, adjustment or removal. Reference: OSHA Standard [29 CFR 1910.147](#), the control of hazardous energy.

POLICY

Hazards - Improper or failure to use Lockout - Tagout procedures may result in:

- Electrical shock
- Chemical exposure
- Skin burns
- Lacerations and amputation
- Fires and explosions
- Chemical releases
- Eye injury
- Death

HAZARD CONTROLS

- Only authorized and trained employees may engage in tasks that require use of lockout-Tagout procedures.
- All equipment has single sources of electrical power.
- Lockout procedures have been developed for all equipment and processes.
- Restoration from Lockout is a controlled operation.

Potential energy may include any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

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AUTHORIZED EMPLOYEES TRAINING

All Maintenance Employees, Department Supervisors and Janitorial employees will be trained to use the Lock and Tagout Procedures. The training will be conducted by the Maintenance Supervisor or Safety Coordinator at time of initial hire. Retraining shall be held at least annually. The training will consist of the following:

- Review of General Procedures;
- Review of Specific Procedures for machinery, equipment and processes;
- Location and use of Specific Procedures;
- Procedures when questions arise;
- Recognition of hazardous energy source;
- Type and magnitude of energy available;
- Methods and means necessary for energy isolation and control;
- All affected employees are instructed in the purpose and use of the energy control procedure;
- The tag is never to be ignored or defeated in any way.

AFFECTED EMPLOYEE TRAINING

- Only trained and authorized Employees will repair, replace or adjust machinery, equipment or processes.
- Affected Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits.
- Purpose and use of the lockout procedures.
- All affected employees are instructed in the purpose and use of the energy control procedure.
- When tagout systems are used including the limitations of a tag (tags are warning devices and do not provide physical restraint).
- The tag is never to be ignored or defeated in any way.

OTHER EMPLOYEE TRAINING

- Only trained and authorized Employees will repair, replace or adjust machinery or equipment.
- Other Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits.
- Any other employee whose work operations are or may be in an area where energy control procedures may be utilized.
- The tag is never to be ignored or defeated in any way.

RETRAINING

Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced.

All training and retraining shall be documented, signed and certified.

PREPERATION OF LOCK OUT AND TAG OUT TRAINING

A Lockout - Tagout survey has been conducted to locate and identify all energy sources to verify which switches or valves supply energy to machinery and equipment. Dual or redundant controls have been removed.

Devices shall indicate the identity of the employee applying the device.

A Tagout Schedule - has been developed for each piece of equipment and machinery. This schedule describes the energy sources, location of disconnects, type of disconnect, special hazards and special safety procedures. The schedule will be reviewed each time to ensure employees properly lock and tag out equipment and machinery. If a Tagout Schedule does not exist for a particular piece of equipment, machinery and process, one must be developed prior to conducting a Lockout - Tagout. As repairs and/or renovations of existing electrical systems are made, standardized controls will be used.

ROUTINE MAINTANCE AND MACHINE ADJUSTMENTS

Lock and Tag Out procedures are not required if equipment must be operating for proper adjustment. This rare exception may be used only by trained and authorized Employees when specific procedures have been developed to safely avoid hazards with proper training. All consideration shall be made to prevent the need for an employee to break the plane of a normally guarded area of the equipment by use of tools and other devices.

LOCKS HASPS AND TAGS

All Qualified Maintenance Personnel will be assigned a lock with one key, hasp and tag. All locks will be keyed differently, except when a specific individual is issues a series of locks for complex lockout-tagout tasks. In some cases, more than one lock, hasp and tag are needed to completely de-energize equipment and machinery. Additional locks may be checked out from the Department or Maintenance Supervisor on a shift-by-shift basis. All locks and hasps shall be uniquely identifiable to a specific employee.

GENERAL LOCK AND TAGOUT PROCEDURES

Before working on, repairing, adjusting or replacing machinery and equipment, the following procedures will be utilized to place the machinery and equipment in a neutral or zero mechanical state.

Preparation for Shutdown

- Before authorized or affected employees turn off a machine or piece of equipment, the authorized employee will have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the means to control the energy.
- Notify all affected Employees that the machinery, equipment or process will be out of service.

Machine or Equipment Shutdown

- The machine or equipment will be turned or shut down using the specific procedures for that specific machine.
- An orderly shutdown will be utilized to avoid any additional or increased hazards to employees as a result of equipment de-energization.
- If the machinery, equipment or process is in operation, follow normal stopping procedures (depress stop button, open toggle switch, etc.).
- Move switch or panel arms to "Off" or "Open" positions and close all valves or other energy isolating devices so that the energy source(s) is disconnected or isolated from the machinery or equipment.

Machine or Equipment Isolation

- All energy control devices that are needed to control the energy to the machine or equipment will be physically located and operated in such a manner as to isolate the machine or equipment from the energy source.

Lockout or Tagout Device Application

- Lockout or tagout devices will be affixed to energy isolating devices by authorized employees.
- Lockout devices will be affixed in a manner that will hold the energy isolating devices from the "safe" or "off" position.
- Where tagout devices are used they will be affixed in such a manner that will clearly state that the operation or the movement of energy isolating devices from the "safe" or "off" positions is prohibited.
- The tagout devices will be attached to the same point a lock would be attached.
- If the tag cannot be affixed at that point, the tag will be located as close as possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

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- Lock and tag out all energy devices by use of hasps, chains and valve covers with an assigned individual lock.

Stored Energy

- Following the application of the lockout or tagout devices to the energy isolating devices, all potential or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe.
- Where the re-accumulation of stored energy to a hazardous energy level is possible, verification of isolation will be continued until the maintenance or servicing is complete, or until the possibility of such accumulation no longer exists.
- Release stored energy (capacitors, springs, elevated members, rotating fly wheels, and hydraulic/air/gas/steam systems) must be relieved or restrained by grounding, repositioning, blocking and/or bleeding the system.

Verification of Isolation

- Prior to starting work on machines or equipment that have been locked or tagged out, the authorized employees will verify that isolation or de-energization of the machine or equipment have been accomplished.
- After assuring that no Employee will be placed in danger, test all lock and tag outs by following the normal start up procedures (depress start button, etc.).

Caution: After Test, place controls in neutral position.

GROUP LOCKOUT SETTINGS/MULTIPLE WORKERS

Where a crew of authorized employees may use a lockout or tagout device, the following procedures shall be followed to ensure the group of employees a level of protection equal to that provided by a personal lockout or tagout device.

An authorized employee will be designated to have primary responsibility for a set number of employees working under the protection of a group lockout or Tagout device.

- A pre-work kick-off safety meeting will be held to review the lockout tagout procedure for the project
- Each employee shall attach a personal lockout or tagout device to the group's device while he/she is working and then removes it when finished
- During shift change or personnel changes, there should be specific procedures to ensure the continuity of lockout or tagout procedures
- Documentation shall be specific and shall be retained

Extended Lockout - Tagout

Should the shift change before the machinery or equipment can be restored to service, the lock and tag out must remain. If the task is reassigned to the next shift, those Employees must lock and tag out before the previous shift may remove their lock and tag.

Release from Lockout - Tagout

Before lockout or tagout devices are removed and the energy restored to the machine or equipment, the following actions will be taken:

- The work area will be thoroughly inspected to ensure that nonessential items have been removed and that machine or equipment components are operational.
- The work area will be checked to ensure that all employees have been safely positioned or removed. Before the lockout or tagout devices are removed, the affected employees will be notified that the lockout or tagout devices are being removed.
- Each lockout or tagout device will be removed from each energy isolating device by the employee who applied the device.

LOTO PROCEDURE FOR ELECTRICAL PLUG TYPE EQUIPMENT

This procedure covers all Electrical Plug-Type Equipment such as Battery Chargers, some Product Pumps, Office Equipment, Powered Hand Tools, Powered Bench Tools, Lathes, Fans, etc.

When working on, repairing, or adjusting the above equipment, the following procedures must be utilized to prevent accidental or sudden startup:

- Unplug Electrical Equipment from wall socket or in-line socket.
- Attach "Do Not Operate" Tag and Plug Box and Lock on end of power cord.

An exception is granted to not lock and tag the plug if the cord and plug remain in the exclusive control of the Employee working on, adjusting or inspecting the equipment.

- Test Equipment to assure power source has been removed by depressing the "Start" or "On" Switch.
- Perform required operations.
- Replace all guards removed.
- Remove Lock and Plug Box and Tag.
- Inspect power cord and socket before plugging equipment into power source. Any defects must be repaired before placing the equipment back in service.

NOTE: Occasionally used equipment may be unplugged from power source when not in use.

LOTO PROCEDURE INVOLVING MORE THAN ONE EMPLOYEE

In the preceding SOPs, if more than one Employee is assigned to a task requiring a lock and tag out, each must also place his or her own lock and tag on the energy isolating device(s).

MANAGEMENT OF LOCK AND TAGOUTS

Only the Employee that locks and tags out machinery, equipment or processes may remove his/her lock and tag. However, should the Employee leave the facility before removing his/her lock and tag, the Maintenance Manager may remove the lock and tag. The Maintenance Manager must be assured that all tools have been removed, all guards have been replaced and all Employees are free from any hazard before the lock and tag are removed and the machinery, equipment or process are returned to service. Notification of the employee who placed the lock is required prior to lock removal.

CONTRACTORS

Contractors, working on company property and equipment must use this Lockout - Tagout procedure while servicing or maintaining equipment, machinery or processes.

Periodic inspections of the energy control procedure must be conducted at least annually to ensure that the procedure is being followed. The program should address who performs the inspection (it must be someone other than those actually using the lockout/tagout in progress). A certified review of the inspection including date, equipment, employees and the inspector should be documented.

DEFINITIONS

Authorized (Qualified) Employees are the only ones certified to lock and tagout equipment or machinery. Whether an employee is considered to be qualified will depend upon various circumstances in the workplace. It is likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment. An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person, is considered to be "qualified" for the performance of those duties.

Affected Employees are those employees who operate machinery or equipment upon which lockout or tagging out is required under this program. Training of these individuals will be less stringent in that it will include the purpose and use of the lockout procedures.

Other Employees are identified as those that do not fall into the authorized, affected or qualified employee category. Essentially, it will include all other employees. These employees will be provided instruction in what the program is and not to touch any machine or equipment when they see that it has been locked or tagged out.

Zero Energy State is a condition in which all sources of energy have been removed or neutralized.

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Manual Lifting

PURPOSE

The purpose of this document is to outline safety policy and procedures surrounding safe manual lifting techniques for **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Management

- Ensure all employees are trained in safe manual lifting techniques

Employees

- Follow safe manual lifting guidelines and techniques outlined in this program

POLICY

By following this program, employees should be able to effectively eliminate, or control work related musculoskeletal disorders (MSD) and hazards. It is the employee's responsibility to plan for lifting, ask for help when needed, and to follow manual lifting best practices.

HAZARD ASSESSMENT

Before manual lifting is performed, a hazard assessment must be completed. The assessment must consider size, bulk, and weight of the object(s), if mechanical lifting equipment is required, if two-man lift is required, whether vision is obscured while carrying and the walking surface and path where the object is to be carried.

TRAINING

Training should include general principles of ergonomics, recognition of hazards and injuries, procedures for reporting hazardous conditions, and methods and procedures for early reporting of injuries. Additionally, job specific training should be given on safe lifting and work practices, hazards, and controls.

INJURY INVESTIGATION

Musculoskeletal injuries caused by improper lifting will be investigated and documented as outlined in The Company Incident Investigation and Reporting Policy.

Incorporation of investigation findings into work procedures must be accomplished to prevent future injuries.

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Employees must use The Company provided manual lifting equipment by employees.

TWO MAN LIFTS

Where use of lifting equipment is impractical or not possible, two-man lifts must be used.

WORK STATION CONFIGURATION

Supervision/Management will periodically evaluate work areas and employees' work techniques to assess the potential for and prevention of injuries.

New operations will be evaluated to engineer out hazards before work processes are implemented.

ADDITIONAL ENGINEERING CONTROLS

Manual lifting equipment such as dollies, hand trucks, lift-assist devices, jacks, carts, hoists will be provided for employees.

Other engineering controls such as conveyors lift tables, and workstation design will be considered by The Company as appropriate.

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Noise Awareness

PURPOSE

The purpose of this document is to outline the Noise Awareness Program for **RUDTUK**; hereafter referred to as "The Company." Conservation of hearing is achieved through preventative measures. To reduce occupational hearing loss, all employees, who work in potentially noisy areas, are provided hearing protection, training and annual hearing tests. OSHA's hearing conservation standard is covered in [29 CFR 1910.95](#). Engineering controls are applied to reduce noise from equipment and operations.

RESPONSIBILITIES

Management

- Use Engineering and Administrative controls to limit employee exposure
- Provide adequate hearing protection for employees
- Post signs and warnings for all high noise areas
- Conduct noise surveys annually or when new equipment is added
- Conduct annual hearing tests for all employees
- Conduct hearing conservation training for all new employees
- Conduct annual hearing conservation training for all employees

Employees

- Use company provided, approved hearing protection in designated high noise areas
- Request new hearing protection when needed
- Exercise proper care of issues hearing protection

TRAINING

A training program shall be provided for all employees who are exposed to a noise action level or work in high noise areas. The training shall be repeated annually for each employee.

Training shall be updated consistent to changes in PPE and work processes and include the proper techniques of wearing hearing protection.

The Company will make available to affected employees copies of the noise exposure procedures and shall also post a copy in the workplace. The Company shall also allow the Assistant Secretary and the Director access to records.

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At time of hire and annually thereafter, all affected Employees must attend Hearing Conservation Training. The initial training is conducted as part of the New Hire Orientation Program by the Human Resource Department and consists of:

- Rules and procedures
- Where hearing protection is required
- How to use and care for hearing protectors
- How noise affects hearing and hearing loss

ENGINEERING CONTROLS

After it is determined that noise exposure above 85 dB(A) are present, engineering controls should be evaluated and implemented to reduce the noise exposure before administrative controls are initiated. Some examples of engineering controls include:

- Noise reducing baffles
- Compartmentalization
- Installing noise reducing gears
- Installing rubber pads under machinery

When new equipment or machinery are evaluated for purchase, the Safety Coordinator should be consulted to conduct an evaluation from a safety and health standpoint. One criteria of the evaluation should include the amount of noise the equipment will produce and how it will affect the overall noise exposure.

A continuing effective hearing conservation program shall be administered when employees are exposed to sound levels greater than 85 db(A) on an 8-hour time-weighted average basis.

When information indicates that employee exposure may equal/exceed the 8-hour time-weighted avg. of 85 decibels, a monitoring program shall be implemented to identify employees to be included in the hearing conservation program.

ADMINISTRATIVE CONTROLS

After engineering controls are evaluated for effectiveness or feasibility, administrative controls should be considered to reduce noise exposure. Administrative controls include restricting exposure time or using personal protective equipment (PPE).

Personal Protective Equipment, such as ear plugs or muffs, may be used to reduce the amount of noise exposure. Each plug or muff has a noise reductions factor (NR) as evaluated by ANSI Standards (S3.19 - 1974 or Z24.22 - 1957). For example, if a work area has an ambient noise exposure of 96 dB (A), the hearing protectors should be rated 6 NR or better to be effective.

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An audiometric testing program will be established and maintained by making audiometric testing available to all employees whose exposures equal or exceed an 8-hr. time-weighted avg. 85 decibels. Within 6 months of an employee's first exposure at or above the action level, a valid baseline audiogram shall be established against which future audiograms can be compared. When a mobile van is used, the baseline shall be established within 1 yr.

Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protection may be used to meet the requirement. Employees shall also be notified to avoid high levels of noise.

At least annually after obtaining the baseline audiogram, The Company will obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing, within 21 days of the determination.

If a threshold shift has occurred, use of hearing protection shall be re-evaluated and/or refitted and if necessary, a medical evaluation may be required. This is done at no cost to employee(s). Hearing protection shall be replaced as necessary. The Company shall ensure that hearing protectors are worn. Employees shall be properly trained in the use, care and fitting of protectors.

The Company shall evaluate hearing protection for the specific noise environments in which the protector will be used. Accurate records of all employee exposure and audiometric measurements shall be maintained as required by the regulation.

According to OSHA Regulations, each location with noise exposures of 85 to 89 dB (A) will provide hearing protectors for the Employee's optional use. Noise exposures at 90 dB (A) or above require the mandatory use of hearing protection. Further, OSHA requires that a variety of hearing protectors be available for Employees to choose (both a variety of plug and muff type hearing protectors).

TYPES OF HEARING PROTECTORS

Hearing protectors shall be available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary. Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.

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Hearing protection devices are the first line of defense against noise in environments where engineering controls have not reduced employee exposure to safe levels. Hearing protective devices can prevent significant hearing loss, but only if they are used properly. The most popular hearing protection devices are earplugs which are inserted into the ear canal to provide a seal against the canal walls. Earmuffs enclose the entire external ears inside rigid cups. The inside of the muff cup is lined with acoustic foam and the perimeter of the cup is fitted with a cushion that seals against the head around the ear by the force of the headband.

USE OF HEARING PROTECTORS

Hearing protection shall be worn by any employee that has been provided hearing protection by their employer. Employees will wear hearing protection in signed areas while at a host facility.

Management, Supervision and Employees shall properly wear the prescribed hearing protectors while working in or traveling through any section of a Location that is designated a High Noise Area. (Excluding offices, break rooms, and rest facilities). The following rules will be enforced:

- Personal stereos, such as MP3 player, etc., will not be permitted in any operating area of company property.
- Hearing protectors, at least two types of plugs and one type of muffs, will be provided and maintained by Company
- Hearing protectors and replacements will be provided free of charge
- Hearing protectors will be properly worn at all times, except in offices, break rooms, rest facilities.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean area, and foam inserts should be discarded after each use. It is important to wash hands before handling pre-formed earplugs and foam inserts to prevent contaminants from being placed in the ear which may increase your risk of developing infections.

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Noise Exposure/Hearing Conservation

PURPOSE

The purpose of this document is to outline the Noise Exposure and Hearing Conservation Program for **RUDTUK**; hereafter referred to as "The Company." Conservation of hearing is achieved through preventative measures. To reduce occupational hearing loss, all employees, who work in potentially noisy areas, are provided hearing protection, training and annual hearing tests. OSHA's hearing conservation standard is covered in [29 CFR 1910.95](#). Engineering controls are applied to reduce noise from equipment and operations.

RESPONSIBILITIES

Management

- Use Engineering and Administrative controls to limit employee exposure
- Provide adequate hearing protection for employees
- Post signs and warnings for all high noise areas
- Conduct noise surveys annually or when new equipment is added
- Conduct annual hearing tests for all employees
- Conduct hearing conservation training for all new employees
- Conduct annual hearing conservation training for all employees

Employees

- Use company provided, approved hearing protection in designated high noise areas
- Request new hearing protection when needed
- Exercise proper care of issues hearing protection

TRAINING

A training program shall be provided for all employees who are exposed to action level noise. The training shall be repeated annually for each employee. Training shall be updated consistent to changes in PPE and work processes. The Company will make available to affected employees, copies of the noise exposure procedures and shall also post a copy in the workplace. The Company shall also allow the Assistant Secretary and the Director access to records.

At time of hire and annually thereafter, all affected Employees must attend Hearing Conservation Training. The initial training is conducted as part of the New Hire Orientation Program by the Human Resource Department and consists of:

- Rules and procedures
- Where hearing protection is required
- How to use and care for hearing protectors
- How noise affects hearing and hearing loss

ENGINEERING CONTROLS

After it is determined that noise exposure above 85 dB(A) are present, engineering controls should be evaluated and implemented to reduce the noise exposure before administrative controls are initiated. Some examples of engineering controls include:

- Noise reducing baffles
- Compartmentalization
- Installing noise reducing gears
- Installing rubber pads under machinery

When new equipment or machinery are evaluated for purchase, the Safety Coordinator should be consulted to conduct an evaluation from a safety and health standpoint. One criteria of the evaluation should include the amount of noise the equipment will produce and how it will affect the overall noise exposure.

A continuing effective hearing conservation program shall be administered when employees are exposed to sound levels greater than 85 db (A) on an 8-hour time-weighted average basis.

When information indicates that employee exposure may equal/exceed the 8-hour time-weighted avg. of 85 decibels, a monitoring program shall be implemented to identify employees to be included in the hearing conservation program.

ADMINISTRATIVE CONTROLS

After engineering controls are evaluated for effectiveness or feasibility, administrative controls should be considered to reduce noise exposure. Administrative controls include restricting exposure time or using personal protective equipment (PPE).

Personal Protective Equipment, such as ear plugs or muffs, may be used to reduce the amount of noise exposure. Each plug or muff has a noise reductions factor (NR) as evaluated by ANSI Standards (S3.19 - 1974 or Z24.22 - 1957). For example, if a work area has an ambient noise exposure of 96 dB (A), the hearing protectors should be rated 6 NR or better to be effective.

An audiometric testing program will be established and maintained by making audiometric testing available to all employees whose exposures equal or exceed an 8-hr. time-weighted avg. 85 decibels. Within 6 months of an employee's first exposure at or above the action level, a valid baseline audiogram shall be established against which future audiograms can be compared. When a mobile van is used, the baseline shall be established within 1 yr.

Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protection may be used to meet the requirement. Employees shall also be notified to avoid high levels of noise.

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At least annually after obtaining the baseline audiogram, The Company will obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing, within 21 days of the determination.

If a threshold shift has occurred, use of hearing protection shall be re-evaluated and/or refitted and if necessary, a medical evaluation may be required. This is done at no cost to employee(s). Hearing protection shall be replaced as necessary. The Company shall ensure that hearing protectors are worn. Employees shall be properly trained in the use, care and fitting of protectors.

The Company shall evaluate hearing protection for the specific noise environments in which the protector will be used. Accurate records of all employee exposure and audiometric measurements shall be maintained as required by the regulation.

According to OSHA Regulations, each location with noise exposures of 85 to 89 dB (A) will provide hearing protectors for the Employee's optional use. Noise exposures at 90 dB (A) or above require the mandatory use of hearing protection. Further, OSHA requires that a variety of hearing protectors be available for Employees to choose (both a variety of plug and muff type hearing protectors).

TYPES OF HEARING PROTECTORS

Hearing protection devices are the first line of defense against noise in environments where engineering controls have not reduced employee exposure to safe levels. Hearing protective devices can prevent significant hearing loss, but only if they are used properly. The most popular hearing protection devices are earplugs which are inserted into the ear canal to provide a seal against the canal walls. Earmuffs enclose the entire external ears inside rigid cups. The inside of the muff cup is lined with acoustic foam and the perimeter of the cup is fitted with a cushion that seals against the head around the ear by the force of the headband.

USE OF HEARING PROTECTORS

Management, Supervision and Employees shall properly wear the prescribed hearing protectors while working in or traveling through any section of a Location that is designated a High Noise Area. (Excluding offices, break rooms, and rest facilities).

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The following rules will be enforced:

- Personal stereos, such as MP3 player, etc., will not be permitted in any operating area of company property.
- Hearing protectors, at least two types of plugs and one type of muffs, will be provided and maintained by Company
- Hearing protectors and replacements will be provided free of charge
- Hearing protectors will be properly worn at all times, except in offices, break rooms, rest facilities.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean area, and foam inserts should be discarded after each use. It is important to wash hands before handling pre-formed earplugs and foam inserts to prevent contaminants from being placed in the ear which may increase your risk of developing infections.

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Noise Exposure/Hearing Conservation - US

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Personal Protective Equipment

PURPOSE

The purpose of this document is to outline the Personal Protective Equipment (PPE) Program for **RUDTUK**; hereafter referred to as "The Company." The Company provides all Employees with required PPE to suit the task and known hazards. This program covers the requirements for Personal Protective Equipment with the exception of PPE used for hearing conservation and respiratory protection or PPE required for hazardous material response to spills or releases, which are covered under separate programs.

RESPONSIBILITIES

Management

- Conduct hazard assessments to identify specific PPE for specific tasks
- Train employees in the selection, use, inspection, storage, cleaning, and limitations of specific PPE

Supervisors

- Monitor use of PPE
- Provide replacement PPE when needed
- Identify any new hazards that would require the use of PPE

Employees

- Properly use and care for assigned PPE
- Immediately inform supervisor if PPE is damaged or not effective

POLICY

General Rules

Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, must be provided, used, and maintained in a sanitary and reliable condition.

Where employees provide their own protective equipment, The Company will assure its adequacy, including proper maintenance, and sanitation of such equipment.

HAZARD ASSESSMENT AND EQUIPMENT SELECTION

Hazard analysis procedures shall be used to assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). The certifier's name, signature, date(s) will be present on the assessment documents. If such hazards are present, or likely to be present, the following actions will be taken:

- Select, and have each affected Employee use, the proper PPE
- Communicate selection decisions to each affected Employee
- Select PPE that properly fits each affected employee.

DEFECTIVE AND DAMAGED EQUIPMENT

Defective or damaged personal protective equipment shall not be used. PPE that is in disrepair must be discarded or removed from service until repaired. Employees who find PPE defective or in disrepair, they must inform their direct supervisor immediately.

TRAINING

All Employees who are required to use PPE shall be trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to properly don, remove, adjust, and wear PPE;
- The limitations of the PPE
- The proper care, maintenance, useful life and disposal of the PPE.

Each affected Employee shall demonstrate an understanding of the training and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE. When there is a reason to believe that any employee who has been trained does not have the required understanding and skill or there are changes in the workplace, the employee must be retrained.

Certification of training for PPE is required by OSHA and shall be accomplished by using the Job Safety Checklist to verify that each affected Employee has received and understood the required PPE training. PPE training will be documented. The certification will include the employee name, the dates of training, and the training content.

PPE SELECTION

Controlling Hazards

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.

Selection Guidelines

The general procedure for selection of protective equipment is to:

- Become familiar with the potential hazards and the type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.;
- Compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment;
- Select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards
- Fit the user with the protective device and give instructions on care and use of the PPE. It is very important that end users be made aware of all warning labels for and limitations of their PPE.

FITTING DEVICE

Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

DEVICES WITH ADJUSTABLE FEATURES

Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the devices are sealed to the face. In addition, proper fitting of helmets is important to ensure that it will not fall off during work operations. In some cases, a chin strap may be necessary to keep the helmet on an employee's head. (Chin straps should break at a reasonably low force, however, so as to prevent a strangulation hazard). Where manufacturer's instructions are available, they should be followed carefully.

EYE AND FACE PROTECTION

The majority of occupational eye injuries can be prevented by the use of suitable/approved safety spectacles, goggles, or shields. Approved eye and face protection shall be worn when there is a reasonable possibility of personal injury.

- Each employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
- Each employee shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors are acceptable.

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- Each employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design or shall wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.
- Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.
- Each employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.

Typical hazards that can cause eye and face injury are:

- Splashes of toxic or corrosive chemicals, hot liquids, and molten metals;
- Flying objects, such as chips of wood, metal, and stone dust;
- Fumes, gases, and mists of toxic or corrosive chemicals; and
- Aerosols of biological substances.

Prevention of eye accidents requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, contractors, or others passing through an identified eye hazardous area. To provide protection for these personnel, activities shall procure a sufficient quantity of heavy-duty goggles and/or plastic eye protectors which afford the maximum amount of protection possible. If these personnel wear personal glasses, they shall be provided with a suitable eye protector to wear over them.

Eye/Face Protection Specifications

Eye and face protectors procured, issued to, and used by employees, contractors and visitors must conform to the following design and performance standards:

- Provide adequate protection against the particular hazards for which they are designed
- Fit properly and offer the least possible resistance to movement and cause minimal discomfort while in use.
- Be durable.
- Be easily cleaned or disinfected for or by the wearer.
- Be clearly marked to identify the manufacturer.
- Persons who require corrective lenses for normal vision, and who are required to wear eye protection, must wear goggles or spectacles of one of the following types:
 - Spectacles with protective lenses which provide optical correction.
 - Goggles that can be worn over spectacles without disturbing the adjustment of the spectacles.
 - Goggles that incorporate corrective lenses mounted behind the protective lenses.

EYE AND FACE PROTECTOR USE

Safety Spectacles

Protective eye glasses are made with safety frames, tempered glass or plastic lenses, temples and side shields which provide eye protection from moderate impact and particles encountered in job tasks such as carpentry, woodworking, grinding, scaling, etc.

Single Lens Goggles

Vinyl framed goggles of soft pliable body design provide adequate eye protection from many hazards. These goggles are available with clear or tinted lenses, perforated, port vented, or non-vented frames. Single lens goggles provide similar protection to spectacles and may be worn in combination with spectacles or corrective lenses to insure protection along with proper vision.

Welders/Chippers Goggles

These goggles are available in rigid and soft frames to accommodate single or two eye piece lenses.

- Welders' goggles provide protection from sparking, scaling or splashing metals and harmful light rays. Lenses are impact resistant and are available in graduated shades of filtration.
- Chippers/grinders goggles provide eye protection from flying particles. The dual protective eye cups house impact resistant clear lenses with individual cover plates.

Face Shields

These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials, or wire screen. Face shields are available in various sizes, tensile strength, impact/heat resistance and light ray filtering capacity. Face shields will be used in operations when the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks, and chemical/ biological splash.

Welding Shields

These shield assemblies consist of vulcanized fiber or glass fiber body, a ratchet/button type adjustable headgear or cap attachment and a filter and cover plate holder. These shields will be provided to protect workers' eyes and face from infrared or radiant light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

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Filter Lenses for Protection Against Radiant Energy			
Operations	Electrode Size 1/32 in	Arc Current	Protective Shade
Shielded metal arc welding	Less than 3	Less than 60	7
	3-5	60-160	8
	5-8	160-250	10
	More than 8	250-550	11
Torch brazing			3
Torch soldering			2
<p>Note: as a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.</p>			

Selection chart guidelines for eye and face protection		
The following chart provides general guidance for the proper selection of eye and face protection to protect against hazards associated with the listed hazard "source" operations.		
Source	Hazard	Protection
IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shield For severe exposure, use face shield
HEAT -Furnace operation and arc welding	Hot sparks	Face shields, spectacles with side. For severe exposure use face shield.
CHEMICALS -Acid and chemical handling, degreasing, plating	Splash	Goggles, eyecup and cover types. For severe exposure, use face shield.
DUST - Woodworking, buffing, general, buffing, general dusty conditions.	Nuisance dust	Goggles, eye cup and cover type

HEAD PROTECTION

Hats and caps have been designed and manufactured to provide workers protection from impact, heat, electrical and fire hazards. These protectors consist of the shell and the suspension combined as a protective system. Safety hats and caps will be of nonconductive, fire and water-resistant materials. Bump caps or skull guards are constructed of lightweight materials and are designed to provide minimal protection against hazards when working in congested areas.

Head protection will be furnished to, and used by, all employees and contractors engaged in construction and other miscellaneous work in head-hazard areas. Head protection will also be required to be worn by engineers, inspectors, and visitors at construction sites. Bump caps/skull guards will be issued to and worn for protection against scalp lacerations from contact with sharp objects. They will not be worn as substitutes for safety caps/hats because they do not afford protection from high impact forces or penetration by falling objects.

Selection Guidelines for Head Protection

All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important. Class A helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class B helmets, in addition to impact and penetration resistance, provide electrical protection from high-voltage conductors (they are proof tested to 20,000 volts). Class C helmets provide impact and penetration resistance (they are usually made of aluminum which conducts electricity) and should not be used around electrical hazards.

Where falling object hazards are present, helmets must be worn. Some examples include working below other workers who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

FOOT PROTECTION

General Requirements

Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where employee's feet are exposed to electrical hazards.

Selection Guidelines for Foot Protection

Safety shoes and boots provide both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided, and in other special situations electrical conductive or insulating safety shoes would be appropriate. Safety shoes or boots with impact protection would be

required for carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet. Safety shoes or boots with compression protection would be required for work activities involving skid trucks (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal etc., could be stepped on by employees causing a foot injury.

HAND PROTECTION

General Requirements

Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Skin contact is a potential source of exposure to toxic materials; it is important that the proper steps be taken to prevent such contact. Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations.

Most accidents involving hands and arms can be classified under four main hazard categories: chemicals, abrasions, cutting, and heat. There are gloves available that can protect workers from any of these individual hazards or combination of hazards.

Gloves should be replaced periodically, depending on frequency of use and permeability to the substance(s) handled. Gloves overtly contaminated should be rinsed and then carefully removed after use.

Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The type of glove materials to be used in these situations include leather, welder's gloves, aluminum-backed gloves, and other types of insulated glove materials.

Careful attention must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent the hands from contacting the point of operation, power train, or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

- Ensure that guards are always in place and used.
- Always lock out machines or tools and disconnect the power before making repairs.
- Treat a machine without a guard as inoperative; and
- Do not wear gloves around moving machinery, such as drill presses, mills, lathes, and grinders.

Selection Guidelines for Hand Protection

Selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. There is no glove that provides protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, flame hazards, etc. Before purchasing gloves, request documentation from the manufacturer that the gloves meet the appropriate test standard(s) for the hazard(s) anticipated. Other factors to be considered for glove selection in general include:

- As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change cheaper gloves than to reuse more expensive types.
- The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.

SELECTION OF GLOVES FOR CHEMICAL HAZARDS

The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and MSDSs before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment.

All glove materials are eventually permeated by chemicals. However, they can be used safely for limited time periods if specific use and glove characteristics (i.e., thickness and permeation rate and time) are known. The safety office can assist in determining the specific type of glove material that should be worn for a particular chemical.

- The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects.
- Generally, any "chemical resistant" glove can be used for dry powders;
- For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials.
- Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

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Personal Protective Equipment - US

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Respiratory Protection

PURPOSE

The purpose of this document is to outline the Respiratory Protection Program for **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

All Employees shall follow the requirements of the Respiratory Protection Program.

Management

- Implement the requirements of this program
- Provide a selection of respirators as required
- Enforce all provisions of this program
- Appoint a specific designated individual to conduct the respiratory protection program

Program Administrator

- Review sanitation/storage procedures.
- Ensure respirators are properly, stored, inspected and maintained
- Monitor compliance for this program
- Provide training for affected Employees
- Review compliance and ensure monthly inspection of all respirators
- Provide respirator fit testing
- Must be knowledgeable of the complexity of the program
- Must be able to conduct evaluations and have the proper training

The Respiratory Protection Program Administrator for The Company is the HSE Manager.

Designated Occupational Healthcare Provider

- Conduct medical aspects of program

POLICY

In the Respiratory Protection program, hazard assessment and selection of proper respiratory protective equipment (RPE) is conducted in the same manner as for other types of personal protective equipment (PPE). In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination.

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This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials).

When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used. References: OSHA Standards *Respiratory Protection* ([29 CFR 1910.134](#))

Each Facility will designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

Respiratory equipment will be provided to all employees that may be exposed to harmful vapors and oxygen deficient atmospheres to be used when engineering control measures are not feasible or during emergency situations with high exposure. Respirators shall be provided which are applicable and suitable for purpose intended.

Respirators will be provided to affected employees at no cost to the employee.

VOLUNTARY USE OF RESPIRATORS IS PROHIBITED

OSHA requires that voluntary use of respirators, when not required by The Company, must be controlled as strictly as under required circumstances. To prevent violations of the Respiratory Protection Standard Employees are not allowed voluntary use of their own or company supplied respirators of any type. Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) face pieces (dust masks).

PROGRAM EVALUATION

Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented, this includes consulting with employees to ensure that they are using the respirators properly. Evaluations shall be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected.

Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
- Appropriate respirator selection for the hazards to which the employee is exposed;

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- Proper respirator use under the workplace conditions the employee encounters; and
- Proper respirator maintenance.

RECORD KEEPING

The Company will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist The Company in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

TRAINING AND INFORMATION

Effective training for employees who are required to use respirators is essential. The training must be comprehensive, understandable, and recur annually, and more often if necessary. Training will be provided prior to requiring the employee to use a respirator in the workplace.

The training shall ensure that each employee can demonstrate knowledge of at least the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
- Fit, use, limitations, emergency situations, wearing, fit checks, maintenance and storage, medical signs and symptoms of effective use, and other general requirements of the OSHA standard;
- Limitations and capabilities of the respirator;
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
- How to inspect, put on and remove, use, and check the seals of the respirator;
- What the procedures are for maintenance and storage of the respirator;
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators;
- The general requirements of this program.

Retraining shall be conducted annually and when:

- Changes in the workplace or the type of respirator render previous training obsolete;
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill;
- Any other situation arises in which retraining appears necessary to ensure safe respirator use.

Training will be conducted by certified instructors and is divided into the following sections:

CLASSROOM INSTRUCTION

- Overview of The Company Respiratory Protection Program and OSHA Standard;
- Respiratory Protection Safety Procedures;
- Respirator Selection;
- Respirator Operation and Use;
- Why the respirator is necessary;
- How improper fit, usage, or maintenance can compromise the protective effect;
- Limitations and capabilities of the respirator;
- How to use the respirator effectively in emergency situations, including respirator malfunctions;
- How to inspect, put on and remove, use, and check the seals of the respirator;
- What the procedures are for maintenance and storage of the respirator;
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators;
- Change out schedule and procedure for air purifying respirators.

FIT TESTING

Hands-On Respirator Training

- Respirator Inspection
- Respirator cleaning and sanitizing
- Record Keeping
- Respirator Storage
- Respirator Fit Check
- Emergencies

Basic Respiratory Protection Safety Procedures

- Only authorized and trained Employees may use Respirators. Those Employees may use only the Respirator that they have been trained on and properly fitted to use.
- Only Physically Qualified Employees may be trained and authorized to use Respirators. A pre-authorization and annual certification by a qualified physician will be required and maintained. Any changes in an Employees health or physical characteristics will be reported to the Occupational Health Department and will be evaluated by a qualified physician.
- Only the proper prescribed respirator or self-contained breathing apparatus (SCBA) may be used for the job or work environment. Air cleansing respirators may be worn in work environments when oxygen levels are between 19.5 percent to 23.5 percent and when the appropriate air cleansing canister, as determined by the Manufacturer and approved by the National Institute for Occupational Safety and Health (NIOSH) or the Mine Safety and Health Administration (MSHA), for the known hazardous

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substance is used. SCBAs will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).

- Employees working in environments where a sudden release of a hazardous substance is likely will wear an appropriate respirator for that hazardous substance (example: Employees working in an ammonia compressor room will have an ammonia APR respirator on their person.).
- Only SCBAs will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance or any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).
- Employees with respirators loaned on "permanent check out" will be responsible for the sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by The Company when returned.
- The last Employee using a respirator and/or SCBA that are available for general use will be responsible for proper storage and sanitation. Monthly and after each use, all respirators will be inspected with documentation to assure its availability for use.
- All respirators will be located in a clean, convenient and sanitary location.
- In the event that Employees must enter a confined space, work in environments with hazardous substances that would be dangerous to life or health should an RPE fail (a SCBA is required in this environment), and/or conduct a hazardous material (HAZMAT) entry, a "buddy system" detail will be used with a Safety Watchman with constant voice, visual or signal line communication. Employees will follow the established Emergency Response Program and/or Confined Space Entry Program when applicable.
- Management will establish and maintain surveillance of jobs and work place conditions and degree of Employee exposure or stress to maintain the proper procedures and to provide the necessary RPE.
- Management will establish and maintain safe operation procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow all general and specific safety rules. Standard Operation Procedures for General RPE use will be maintained as an attachment to the Respiratory Protection Program and Standard Operation Procedures for RPE use under emergency response situations will be maintained as an attachment to the Emergency Response Program.

Respirator User Policies

Adherence to the following guidelines will help ensure the proper and safe use of respiratory equipment:

- Wear only the respirator you have been instructed to use. For example, do not wear a self-containing breathing apparatus if you have been assigned and fitted for a half-mask respirator.
- Wear the correct respirator for the particular hazard. For example, some situations, such as chemical spills or other emergencies, may require a higher level of

protection than your respirator can handle. Also, the proper cartridge must be matched to the hazard (a cartridge designed for dusts and mists will not provide protection for chemical vapors).

- Check the respirator for a good fit before each use. Positive and negative fit checks should be conducted.
- Check the respirator for deterioration before and after use. Do not use a defective respirator.
- Recognize indications that cartridges and canisters are at their end of service. If in doubt, change the cartridges or canisters before using the respirator.
- Practice moving and working while wearing the respirator so that you can get used to it.
- Clean the respirator after each use, thoroughly dry it and place the cleaned respirator in a sealable plastic bag.
- Store respirators carefully in a protected location away from excessive heat, light, and chemicals.

SELECTION OF RESPIRATOR

The Company has evaluated the respiratory hazard(s) in each workplace, identified relevant workplace and user factors and has based respirator selection on these factors. Also included are estimates of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. This selection has included appropriate protective respirators for use in IDLH atmospheres and has limited the selection and use of air-purifying respirators. All selected respirators are NIOSH-certified.

NIOSH certified respirators are selected and provided based on those hazards and factors affecting performance.

Filter Classifications - These classifications are marked on the filter or filter package:

N-Series: Not Oil Resistant

- Approved for non-oil particulate contaminants
- Examples: dust, fumes, mists not containing oil

R-Series: Oil Resistant

- Approved for all particulate contaminants, including those containing oil
- Examples: dusts, mists, fumes
- Time restriction of 8 hours when oils are present

P-Series: Oil Proof

- Approved for all particulate contaminants including those containing oil
- Examples: dust, fumes, mists

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- See Manufacturer's time use restrictions on packaging

Respirators for IDLH Atmospheres

- The following respirators will be used in IDLH atmospheres:
- A full-face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
- A combination full face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

Respirators for Atmospheres That Are Not IDLH

The respirators selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

Identification of Filters and Cartridges

All filters and cartridges shall be labeled, and color coded with the NIOSH approval label and that the label is not removed and remains legible. A change out schedule for filters and canisters has been developed to ensure these elements of the respirators remain effective.

Respirator Filter and Canister Replacement

An important part of the Respiratory Protection Program includes identifying the useful life of canisters and filters used on air-purifying respirators. Each filter and canister shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or if there is no ESLI appropriate for conditions a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life.

Filter and Cartridge Change Schedule

Stock of spare filters and cartridges shall be maintained to allow immediate change when required or desired by the employee.

Cartridges shall be changed based on the most limiting factor below:

- Prior to expiration date
- Manufacturer's recommendations for use and environment
- After each use
- When requested by employee
- When contaminate odor is detected
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally

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- Cartridges shall remain in their original sealed packages until needed for immediate use

Filters shall be changed based on the most limiting factor below:

- Prior to expiration date
- Manufactures recommendations for the specific use and environment
- When requested by employee
- When contaminate odor is detected
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally
- When discoloring of the filter media is evident
- Filters shall remain in their original sealed package until needed for immediate use.

Respiratory Protection Schedule by Job and Working Condition

The Company maintains a Respiratory Protection Schedule by Job and Working Condition. This schedule is provided to each authorized and trained Employee. The Schedule provides the following information:

- Job/Working Conditions
- Work Location
- Hazards Present
- Type of Respirator or SCBA Required
- Type of Filter/Canister Required
- Location of Respirator or SCBA
- Filter/Cartridge change out schedule

The schedule will be reviewed and updated at least annually and whenever any changes are made in the work environments, machinery, equipment, or processes or if respirator different respirator models are introduced or existing models are removed.

Permanent respirator schedule assignments are:

Each person who engages in welding will have their own company provided dust-mist-fume filter APR. This respirator will be worn during all welding operations.

ASSIGNED PROTECTION FACTORS

No respirator can provide 100% effectiveness. OSHA has implemented Assigned Protection Factors (APFs) for various types of respirators. The purpose of APFs is to ensure use of respirators does not cause over-exposure to specific contaminants. Maximum permissible exposure levels (PEL) are generally based on specific concentrations over an 8-hour daily period without using a respirator. As an example, if a respirator has a 90% effectiveness, then a respirator wearer would reach the maximum permissible exposure level in 10 hours **IF** the atmospheric conditions were 10 times the PEL.

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Our company selects respirators by comparing the exposure level and the maximum concentration of the contaminant in which a particular type of respirator can be used. Known as the Maximum Use Concentration or MUC, this is generally determined by multiplying the respirator's APF by the contaminant's exposure limit. If the level of contaminant is expected to exceed the MUC, The Company will select a respirator with a higher APF.

PHYSICAL AND MEDICAL EVALUATIONS

Records of medical evaluations must be retained and made available in accordance with [29 CFR 1910.1020](#). Physicals and medical examinations must be confidential, during normal working hours, convenient, understandable, employee given chance to discuss results with PLHCP.

MEDICAL EVALUATION REQUIRED

Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. The Company provides a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace.

Medical Evaluation Procedures

The employee will be provided a medical questionnaire by the designated Occupational Health Care Provider

Follow-Up Medical Examination

The Company shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions in Part B of the questionnaire or whose initial medical examination demonstrates the need for a follow-up medical examination. The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the Physician deems necessary to make a final determination.

Administration of the Medical Questionnaire and Examinations

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. The Company shall provide the employee with an opportunity to discuss the questionnaire and examination results with the Physician.

Supplemental Information for the Physician

The following information must be provided to the Physician before the Physician makes a recommendation concerning an employee's ability to use a respirator

- The type and weight of the respirator to be used by the employee
- The duration and frequency of respirator use (including use for rescue and escape)
- The expected physical work effort
- Additional protective clothing and equipment to be worn
- Temperature and humidity extremes that may be encountered

Any supplemental information provided previously to the Physician regarding an employee need not be provided for a subsequent medical evaluation if the information and the Physician remain the same. The Company has provided the Physician with a copy of the written respiratory protection program and a copy of the OSHA Standard [29 CFR 1910.134](#)

Medical Determination

In determining the employee's ability to use a respirator, The Company shall:

- Obtain a written recommendation regarding the employee's ability to use the respirator from the Physician. The recommendation shall provide only the following information.
- Any limitations on respirator use related to the medical condition of the employee or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.
- The need, if any, for follow-up medical evaluations.
- A statement that the Physician has provided the employee with a copy of the Physician's written recommendation.
- If the respirator is a negative pressure respirator and the Physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, The Company shall provide a APR if the Physician's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then The Company is no longer required to provide a APR.

Additional Medical Evaluations

At a minimum, The Company shall provide additional medical evaluations that comply with the requirements of this section if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator.
- A Physician, supervisor, or the respirator program administrator informs The Company that an employee needs to be reevaluated.
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee re-evaluation.

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- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

RESPIRATOR FIT TESTING

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. The Company shall ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.

Employees are required to pass qualitative fit test (QLFT) or quantitative fit test (QNFT) before initial use, if a different respirator is used, and annually.

Anything that can affect the seal is prohibited and include facial hair, glasses, etc. Respirators with tight-fitting face pieces shall not be worn by employees who have facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.

The Company has established a record of the qualitative and quantitative fit tests administered to employees including:

- The name or identification of the employee tested
- Type of fit test performed
- Specific make, model, style, and size of respirator tested
- Date of test
- The pass/fail results for Qualitative Fit Test (QLFT) or the fit factor and strip chart recording or other recording of the test results for Quantitative Fit Test (QNFT)

Additional fit tests will be conducted whenever the employee reports, or The Company, Physician, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

If after passing a QLFT or QNFT, the employee notifies The Company, program administrator, supervisor, or Physician that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.

Types of Fit Tests

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in [Appendix A of OSHA Standard 1910.134](#).

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- QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
- If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full-face pieces, the QNFT has been passed with that respirator.
- Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.
- Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator face piece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator face piece.
- Quantitative fit testing of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.
- Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH approved configuration, before that face piece can be used in the workplace.

Fit test records shall be retained for respirator users until the next fit test is administered. Written materials required to be retained shall be made available upon request to affected employees.

RESPIRATOR OPERATION AND USE

Respirators will only be used following the respiratory protection safety procedures established in this program. The Operations and Use Manuals for each type of respirator will be maintained by the Program Administrator and be available to all qualified users.

Surveillance by the direct supervisor shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, The Company shall reevaluate the continued effectiveness of the respirator.

For continued protection of respirator users, the following general use rules apply:

- Users shall not remove respirators while in a hazardous environment
- Respirators are to be stored in sealed containers out of harmful atmospheres
- Store respirators away from heat and moisture

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- Store respirators such that the sealing area does not become distorted or warped
- Store respirator such that the face piece is protected

Face Piece Seal Protection

The Company does not permit respirators with tight-fitting face pieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function; or
- Any condition that interferes with the face-to-face piece seal or valve function.

If an employee wears corrective glasses or goggles or other personal protective equipment, The Company shall ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

CONTINUING EFFECTIVENESS OF RESPIRATORS

The Company shall ensure the following that employees leave the respirator use area:

- To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece
- To replace the respirator or the filter, cartridge, or canister elements.

If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, The Company will replace or repair the respirator before allowing the employee to return to the work area.

The program administrator must address appropriate surveillance, and ensure employees leave the area to wash, change cartridges, or if they detect break-through or resistance

Procedures for IDLH Atmospheres

For all IDLH atmospheres, The Company shall ensure that:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere.
- Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere.
- The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue.
- The Company or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.

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- The Company or designee authorized to do so by The Company, once notified, provides necessary assistance appropriate to the situation.

Employee(s) located outside the IDLH atmospheres will be equipped with:

- Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either:
 - Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or
 - Equivalent means for rescue where retrieval equipment is not required.

Outside standby persons must maintain communication, have proper training and equipment, be knowledgeable in notification procedures, and necessary action.

Mandatory equipment includes:

- SCBA or SAR with auxiliary air supply and appropriate retrieval equipment or equivalent rescue means.

CLEANING AND DISINFECTING

The Company shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The Company shall ensure that respirators are cleaned and disinfected using the Standard Operating Procedure SOP: Cleaning and Disinfecting.

The respirators shall be cleaned and disinfected when:

- Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;
- Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals;
- Respirators maintained for emergency use shall be cleaned and disinfected after each use;
- Respirators used in fit testing and training shall be cleaned and disinfected after each use.

Cleaning and Storage of respirators assigned to specific employees is the responsibility of that Employee.

Procedures for Cleaning Respirators

- Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or

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any components recommended by the manufacturer. Discard or repair any defective parts.

- Wash components in warm (43°C [110°F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
- Rinse components thoroughly in clean, warm (43°C [110°F] maximum), preferably running water. Drain.
- When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
 - Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43°C (110°F); or,
 - Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43°C (110°F); or,
 - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
- Rinse components thoroughly in clean, warm (43°C [110°F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
- Components should be hand-dried with a clean lint-free cloth or air-dried.
- Reassemble face piece, replacing filters, cartridges, and canisters where necessary.
- Test the respirator to ensure that all components work properly.

RESPIRATOR INSPECTIONS

All respirators/SCBAs, both available for "General Use" and those on "Permanent Check-out," will be inspected after each use and at least monthly. Should any defects be noted, the respirator/SCBA will be taken to the program Administrator. Damaged Respirators will be either repaired or replaced. The inspection of respirators loaned on "Permanent Check-out" is the responsibility of that trained Employee.

Respirators shall be inspected as follows:

- All respirators used in routine situations shall be inspected before each use and during cleaning
- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations and shall be checked for proper function before and after each use.
- Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

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- **Routine Use** – before use and during cleaning.
- **Emergency Use** – monthly, and before and after each use.
- **Escape Only** – before being carried into workplace.

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters.
- Check of elastomeric parts for pliability and signs of deterioration.
- Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The Company shall determine that the regulator and warning devices function properly.
- Protection from damage and contamination.

For "Emergency Use Respirators" the additional requirements apply:

- Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator.
- Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.
- Emergency use respirators must be stored in an easily accessible, clearly marked location

RESPIRATOR STORAGE

Respirators are to be stored as follows:

- All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the face piece and exhalation valve.
- Emergency Respirators shall be:
 - Kept accessible to the work area;
 - Stored in compartments or in covers that are clearly marked as containing emergency respirators; and
 - Stored in accordance with any applicable manufacturer instructions.

REPAIR OF RESPIRATORS

Respirators that fail an inspection or are otherwise found to be defective will be removed from service to be discarded, repaired or adjusted in accordance with the following procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and
- Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

BREATHING AIR QUALITY AND USE

The Company shall ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:

- Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and
- Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
 - Oxygen content (v/v) of 19.5-23.5%;
 - Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
 - Carbon monoxide (CO) content of 10 ppm or less;
 - Carbon dioxide content of 1,000 ppm or less; and
 - Lack of noticeable odor.
- Compressed oxygen will not be used in atmosphere-supplying respirators that have previously used compressed air;
- Oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution;
- Cylinders used to supply breathing air to respirators meet the following requirements:
 - Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178);
 - Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air;
 - Moisture content in breathing air cylinders does not exceed a dew point of -50 deg. F (-45.6 deg. C) at 1 atmosphere pressure;
 - Breathing air couplings are incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.

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- Breathing gas containers shall be marked in accordance with the NIOSH respirator certification standard, [42 CFR part 84](#).

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Rigging Material Handling

PURPOSE

The purpose of this document is to outline the Rigging Material Handling Program for **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Management

- Implement the requirements of this program
- Determine appropriate implementation (legislative applicability) and enforcement of this program
- Train employees on this program or select an outside training facility

Employees

- Follow the provisions set forth in this program

POLICY

General

Only persons who are deemed competent or qualified (by experience and training) shall attach any loads to a lifting device and only competent or qualified operators shall operate a crane while engaged in lifting operations.

TRAINING

All affected employees shall demonstrate competency and qualifications through training based upon the following objectives:

- Proper hardware selections such as hooks, bolts, eye bolts, ropes, chains, slings etc. that is appropriate for the task at hand;
- Inspection of equipment prior to use;
- Safe methods of load connection/hook-up;
- How to safely secure each load (attaching, lifting, guiding the load while elevated, load lowering and placement.

RIGGING MATERIAL HANDLING

- Defective equipment shall not be used and must be removed from service immediately.
- Rigging equipment shall not be loaded beyond its recommended safe working load. Identification markings, indicating rated capacity for the type(s) of hitch(es) used,

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the angle upon which it is based, and the number of legs if more than one, shall be permanently affixed to the rigging.

- Rigging equipment not in use shall be removed from the immediate work area so as not to present a hazard to employees.
- Tag lines shall be used unless their use creates an unsafe condition.
- Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.
- All employees shall be kept clear of loads about to be lifted and of suspended loads.

INSPECTION

Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by The Company.

Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service.

Alloy Steel Chains

- Welded alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.
- Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, shall have a rated capacity at least equal to that of the chain.
- Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.

The Company will not use alloy steel-chain slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

Whenever wear at any point of any chain link exceeds that shown in [Table H1](#), the assembly shall be removed from service.

In addition to the inspection required by other paragraphs of this section, a thorough periodic inspection of alloy steel chain slings in use shall be made on a regular basis, to be determined on the basis of:

- Frequency of sling use;
- Severity of service conditions;
- Nature of lifts being made; and,
- Experience gained on the service life of slings used in similar circumstances.

Such inspections shall in no event be at intervals greater than once every 12-months.

The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected and shall make such record available for examination.

Wire Rope

The Company will not use improved plow-steel wire rope and wire-rope slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

- Protruding ends of strands in splices on slings and bridles shall be covered or blunted.
- Wire rope shall not be secured by knots, except on haul back lines on scrapers.

The following limitations shall apply to the use of wire rope:

- An eye splice made in any wire rope shall have not less than three full tucks. However, this requirement shall not operate to preclude the use of another form of splice or connection which can be shown to be as efficient and which is not otherwise prohibited.
- Except for eye splices in the ends of wires and for endless rope slings, each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without knot or splice.
- Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots.
- Wire rope shall not be used if, in any length of eight diameters, the total number of visible broken wires exceeds 10 percent of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.
- When U-bolt wire rope clips are used to form eyes, [Table H2](#) shall be used to determine the number and spacing of clips.
- When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope.
- Slings shall not be shortened with knots or bolts or other makeshift devices.
- Sling legs shall not be kinked.
- Slings used in a basket hitch shall have the loads balanced to prevent slippage.
- Slings shall be padded or protected from the sharp edges of their loads.
- Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
- Shock loading is prohibited.
- A sling shall not be pulled from under a load when the load is resting on the sling.

Rigging equipment for material handling shall be inspected prior to use on each shift, and as necessary during its use to ensure that it is safe.

- Rigging equipment for material handling shall be inspected prior to use on each shift

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and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.

The Company will ensure that rigging equipment:

- Has permanently affixed and legible identification markings as prescribed by the manufacturer that indicate the recommended safe working load;
- Not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer; and
- Not be used without affixed, legible identification markings.

Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load.

SCOPE

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

SLINGS

Minimum Sling Lengths

- Cable laid and 6 X 19 and 6 X 37 slings shall have minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves or end fittings.
- Braided slings shall have a minimum clear length of wire rope 40 times the component rope diameter between the loops or end fittings.
- Cable laid grommets strand laid grommets and endless slings shall have a minimum circumferential length of 96 times their body diameter.

Safe Operating Temperatures

Fiber core wire rope slings of all grades shall be permanently removed from service if they are exposed to temperatures in excess of 200 deg. F (93.33 deg. C).

When non-fiber core wire rope slings of any grade are used at temperatures above 400 deg. F (204.44 deg. C) or below minus 60 deg. F (15.55 deg. C), recommendations of the sling manufacturer regarding use at that temperature shall be followed.

End Attachments

Welding of end attachments, except covers to thimbles, shall be performed prior to the assembly of the sling.

All welded end attachments shall not be used unless proof tested by the manufacturer or equivalent entity at twice their rated capacity prior to initial use. The employer shall retain a certificate of proof test and make it available for examination.

Wire rope slings shall have permanently affixed, legible identification markings stating size, rated capacity for the type(s) of hitch(es) used, the angle upon which it is based, and the number of legs (if more than one).

Wire rope slings shall not present a hazard to employees.

NATURAL ROPE AND SYNTHETIC FIBER

Employers must not use natural- and synthetic-fiber rope slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.

All splices in rope slings provided by the employer shall be made in accordance with fiber rope manufacturers recommendations.

In manila rope, eye splices shall contain at least three full tucks, and short splices shall contain at least six full tucks (three on each side of the center line of the splice).

In layered synthetic fiber rope, eye splices shall contain at least four full tucks, and short splices shall contain at least eight full tucks (four on each side of the center line of the splice).

Strand end tails shall not be trimmed short (flush with the surface of the rope) immediately adjacent to the full tucks. This precaution applies to both eye and short splices and all types of fiber rope. For fiber ropes under 1-inch diameter, the tails shall project at least six rope diameters beyond the last full tuck. For fiber ropes 1-inch diameter and larger, the tails shall project at least 6 inches beyond the last full tuck. In applications where the projecting tails may be objectionable, the tails shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

For all eye splices, the eye shall be sufficiently large to provide an included angle of not greater than 60 deg. at the splice when the eye is placed over the load or support.

Knots shall not be used in lieu of splices.

Safe Operating Temperatures

Natural and synthetic fiber rope slings, except for wet frozen slings, may be used in a temperature range from minus 20 deg. F (-28.88 deg. C) to plus 180 deg. F (82.2 deg. C) without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed.

Splicing

Spliced fiber rope slings shall not be used unless they have been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer:

In manila rope, eye splices shall consist of at least three full tucks, and short splices shall consist of at least six full tucks, three on each side of the splice center line.

In synthetic fiber rope, eye splices shall consist of at least four full tucks, and short splices shall consist of at least eight full tucks, four on each side of the center line.

Strand end tails shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope under 1 inch (2.54 cm) in diameter, the tail shall project at least six rope diameters beyond the last full tuck. For fiber rope 1 inch (2.54 cm) in diameter and larger, the tail shall project at least 6 inches (15.24 cm) beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

Fiber rope slings shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter.

Knots shall not be used in lieu of splices.

Clamps not designed specifically for fiber ropes shall not be used for splicing.

For all eye splices, the eye shall be of such size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support.

End Attachments

Fiber rope slings shall not be used if end attachments in contact with the rope have sharp edges or projections.

Removal from Service

Natural and synthetic fiber rope slings shall be immediately removed from service if any of the following conditions are present:

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- Abnormal wear;
- Powdered fiber between strands;
- Broken or cut fibers;
- Variations in the size or roundness of strands;
- Discoloration or rotting;
- Distortion of hardware in the sling.

Employers must use natural- and synthetic-fiber rope slings that have permanently affixed and legible identification markings that state the rated capacity for the type(s) of hitch(es) used and the angle upon which it is based, type of fiber material, and the number of legs if more than one.

Synthetic Webbing (Nylon, Polyester, and Polypropylene)

The employer shall have each synthetic web sling marked or coded to show:

- Name or trademark of manufacturer;
- Rated capacities for the type of hitch;
- Type of material;
- Rated capacity shall not be exceeded.

WEBBING

Synthetic webbing shall be of uniform thickness and width and selvage edges shall not be split from the webbing's width.

FITTINGS

Fittings shall be: Of a minimum breaking strength equal to that of the sling; and, free of all sharp edges that could in any way damage the webbing.

Attachment of end fittings to webbing and formation of eyes Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

Environmental Conditions

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

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

Safe Operating Temperatures

Synthetic web slings of polyester and nylon shall not be used at temperatures in excess of 180 deg. F (82.2 deg. C). Polypropylene web slings shall not be used at temperatures in excess of 200 deg. F (93.33 deg. C).

Removal from Service

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

- Acid or caustic burns;
- Melting or charring of any part of the sling surface;
- Snags, punctures, tears or cuts;
- Broken or worn stitches; or
- Distortion of fittings.
- Shackles and hooks.

The Company will not use shackles with loads in excess of the rated capacities (i.e., working load limits) indicated on the shackle by permanently affixed and legible identification markings prescribed by the manufacturer.

The manufacturer's recommendations shall be followed in determining the safe working loads of the various sizes and types of specific and identifiable hooks. All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use. The Company will maintain a record of the dates and results of such tests.

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Table H - 1. -- MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK

Chain size, (inches)	Maximum Allowable Wear (inch)
1/4	3/64
3/8	5/64
1/2	7/64
5/8	9/64
3/4	5/32
7/8	11/64
1	3/16
1 1/8	7/32
1 1/4	1/4
1 3/8	9/32
1 1/2	5/16
1 3/4	11/32

Table H - 2. -- NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

Improved plow steel, rope diameter (inches)	Number of Clips		Minimum spacing (inches)
	Drop forged	Other material	
1/2	3	4	3
5/8	3	4	3 3/4
3/4	4	5	4 1/2
7/8	4	5	5 1/2
1	5	6	6
1 1/8	6	6	6 3/4
1 1/4	6	7	7 1/2
1 3/8	7	7	8 1/4
1 1/2	7	8	9

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Risk Assessment – Identification of Hazards

PURPOSE

The Hazard Identification and Risk Assessment program should be used as a tool to help identify and evaluate both existing and potential hazards on worksites as well as methods to control and eliminate the hazards identified. **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Supervisors

Shall start the hazard identification process before the job begins by identifying hazards that are known to exist on site and documenting them. By identifying hazards early, the supervisor may be able to implement controls before any workers arrive on site.

To ensure the process is thorough the supervisor should:

- Look at all aspects of the work,
- Include non-routine activities such as maintenance, repair, or cleaning,
- Look at accident/incident/near-miss records, include people who work "off-site" either at home, on other job sites, drivers, etc.,
- Look at the way the work is organized or "done" (include experience and age of people doing the work, systems being used, etc.),
- Look at foreseeable unusual conditions (for example: possible impact on hazard control procedures that may be unavailable in an emergency situation, power outage, etc.),
- Examine risks to visitors or the public,
- Include an assessment of groups that may have a different level of risk such as young or inexperienced workers, etc.

POLICY

The hazard identification process is used for routine and non-routine activities as well as new processes, changes in operation, products or services as applicable.

The assessment process must be completed prior to the start of all jobs to identify existing or potential hazards to workers and eliminate or control these hazards through the use of engineering or administrative controls, proper training or the use of personal protective equipment.

All company staff and contractors are required to take a proactive approach to managing and reporting hazards. When they observe a hazard, they are required to take steps to manage that hazard directly (provided they are adequately knowledgeable/trained to safely do so) – eliminate the hazard or get assistance from appropriate persons to do so whenever reasonably possible. Where hazards cannot be eliminated immediately, take necessary steps to warn others of the hazard. Report hazardous or potentially hazardous conditions and acts to a supervisor or your site contact if a contractor.

RISK ASSESSMENT

The Company has a formal process for identifying potential hazards. Processes are in place to identify potential hazards by the use of JSA's, JHA's facility wide or area specific analysis/inspections.

Employees and/or sub-contractors are actively involved in the hazard identification process. The Company program provides processes to ensure employees and/or sub-contractors are actively involved in the hazard identification process and hazards are reviewed with all employees concerned.

CLASSIFICATION

Hazards are classified and ranked based on severity. The program identifies hazards are classified/prioritized and addressed based on the risk associated with the task. (See the risk analysis matrix outlining severity and probability).

Ranking or prioritizing hazards is one way to help determine which hazard is the most serious and thus which hazard to control first. Priority is usually established by taking into account the employee exposure and the potential for accident, injury or illness. By assigning a priority to the hazards, you are creating a ranking or an action list.

The following factors play an important role:

- Percentage of workforce exposed,
- Frequency of exposure,
- Degree of harm likely to result from the exposure.

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PROBABILITY OF OCCURANCE

There is no one simple or single way to determine the level of risk. Ranking hazards requires the knowledge of the workplace activities, urgency of situations, and most importantly, objective judgment. One option is seen in the following two tables:

Risk Severity Index			
1	Level 1	Fatality OR Property Damage Exceeding \$50,000	
	Level 2	Employee admitted to hospital or probably permanent disability OR property damage between \$10,000 and \$50,000	
	Level 3	Employee not able to perform all of their regular duties OR property damage between \$1,000 and \$10,000	
	Level 4	Employee able to perform all their regular duties OR property damage less than \$1,000	
Probability Index of Occurrence		Example	
2	A	Likely to occur immediately	Could happen any day
	B	Probable in time	Likely to happen if conditions are repeated
	C	Possible in time	Under the right conditions, the incident might be repeated
	D	Remotely possible	Even under similar conditions, it is unlikely the incident will be repeated

For the activity being examined, determine the most likely reasonable level of severity (levels 1 through 4 in the above table). Then determine how likely (the probability) the injury would be (letters A-D). For example, being hit by a low speed car is most often a level 2 injury but is barely possible for someone who works a kitchen job (level D). However, put that same person wearing all black on a roadside at night replacing the roadside light bulbs and the probability increases to level A and the severity to 1 (fatality reasonably likely).

The kitchen worker would have a score of 2D on the following table. The table gives a 2D risk as a level 3. Simple rules such as ensuring that kitchen workers have a path to the dumpster that does not involve vehicle traffic would be an example.

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The case of the worker all in black at night on the roadside is 1A on the following table – a completely unacceptable level of risk. The worker should do the job in high visibility clothing, in daylight, with traffic control.

		Probability of Occurrence			
		A	B	C	D
Potential Severity	1	1	1	1	2
	2	1	2	2	3
	3	2	2	3	3
	4	2	3	3	4

Risk Definitions	Risk is the chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard. It may also apply to situations with property or equipment loss.
4 - Low	Activities in this category contain minimal risk and are unlikely to occur. Organizations can proceed with these activities as planned.
3 - Medium	Activities in this category contain minor to serious risks that are remotely likely to likely to occur. Application of proactive risk management strategies to reduce the risk is advised. Organizations should consider ways to modify or eliminate unacceptable risks.
2 - High	Activities in this category contain unacceptable levels of risk, including catastrophic and critical injuries that are highly likely to occur. Organizations should consider whether they should eliminate or modify activities that still have a "high" rating after applying all reasonable risk management strategies.
1 - Extreme	Activities in this category should not be allowed to proceed without very careful planning. The Company needs to evaluate whether the activity is actually necessary in the first place.

Once the risk has been assessed, the appropriate controls shall to be put into place. The following describes how identified hazards/risks are addressed and mitigated.

The main ways to control a hazard include:

- Elimination (including substitution): remove the hazard from the workplace.
- Engineering Controls: includes designs or modifications to plants, equipment, ventilation systems, and processes that reduce the source of exposure.
- Administrative Controls: controls that alter the way the work is done, including timing of work, policies and other rules, and work practices such as standards and operating procedures (including training, housekeeping, and equipment maintenance, and personal hygiene practices).

- Personal Protective Equipment: equipment worn by individuals to reduce exposure such as contact with chemicals or exposure to noise.
- Develop Safe Practices/ Engineering Controls to Mitigate Risk

These methods are also known as the "hierarchy of control" because they should be considered in the order presented (it is always best to try to eliminate the hazard first, etc.).

Controls are placed:

1. At the source (where the hazard "comes from")
2. Along the path (where the hazard "travels")
3. At the worker

Control at the source and control along the path are also known as engineering controls.

Administrative controls limit workers' exposure by implementing other "rules," such as training, supervision, shorter shifts in high risk areas etc. These control measures have many limitations because the hazard itself is not actually removed or reduced. Administrative controls are not generally favored because they can be difficult to implement, maintain and are not a reliable way to reduce exposure

Personal protective equipment (PPE) includes items such as respirators, protective clothing such as gloves, face shields, eye protection, and footwear that serve to provide a barrier between the wearer and the chemical or material. It is the final item on the list for a very good reason.

Personal protective equipment should never be the only method used to reduce exposure except under very specific circumstances because PPE may "fail" (stop protecting the worker) with little or no warning. For example: "breakthrough" can occur with gloves, clothing, and respirator cartridges.

Once it has been decided what the best and most practical control for a particular hazard is, this needs to be documented. The safe work procedure for the job needs to be written based on those risks and controls. Using the examples from earlier with the car striking a worker, the kitchen work procedure for garbage removal should include something about having the dumpster near the back door to the kitchen and not across the parking lot. It could also include instruction to the worker to ensure that they report any burnt-out exterior lights. Some may add requirements to put on a reflective vest when taking out the garbage at night. The groundskeeper changing light bulbs needs to have a safe work procedure that includes only working during the day, in high visibility clothing and with proper traffic control barriers. Parking a service vehicle in the road ahead of the worker to act as a substantial physical barrier would further reduce the risk.

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COMMUNICATE THE CONTROLS AND TRAIN THE WORKERS

All employees will be trained in the hazard identification process including the use and care of proper PPE.

Once the control has been put into place The Company shall train employees how to use it. This applies whether it is an engineering control such as a guard or interlock, an administrative control such as a safe work procedure for cold weather or particular PPE when handling a chemical. Training records and/or documented sign-offs are required to show that the workers have been made aware of the hazards and the controls.

REVIEW

Repeat the Hazard Assessment process every 2-years or when site conditions change, when new tasks are added or when new workers join the crew, in order to prevent the development of unsafe working condition.

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Scaffolds

PURPOSE

The purpose of this document is to outline the Scaffolds Safety Program for **RUDTUK**; hereafter referred to as "The Company." This program covers employees who work on scaffold work surfaces.

This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry ([29 CFR 1910.28](#)) and Occupational Safety and Health Standards for Construction Industry ([29 CFR 1926.451](#)).

RESPONSIBILITIES

Managers/Unit Heads

- Managers/Unit Heads will ensure adequate funds are available and budgeted for the purchase of scaffolds in their areas
- Identify the employees affected by this safety policy and procedure
- Obtain and coordinate the required training for the affected employees
- Ensure compliance with this safety policy and procedure through their auditing process

Supervisors

- Supervisors will not allow any employee who has not received the required training to perform any of the tasks or activities related to scaffold erection and/or dismantling
- Communicate appropriate needs to managers/unit heads and/or supervisors
- Ensure that employees are provided with PPE as necessary for their job
- Ensure that a competent person is in charge of scaffold erection according to the manufacturer's specifications

Competent Person

- Oversee the scaffold selection, erection, use, movement, alteration, dismantling, maintenance, and inspection
- Be knowledgeable about proper selection, care, and use of the fall protection equipment. Additionally, the competent person shall assess hazards
- Ensure scaffolds are safe prior to use

Employees

- Employees shall comply with all applicable guidelines contained in this safety policy and procedure
- Report damaged scaffolds, accessories, and missing or lost components

- Assist with inspections as requested

Safety Officer

- Provide prompt assistance to managers/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure
- Assist in developing or securing required training
- Work with Purchasing and Central Equipment Unit to ensure that all newly purchased scaffolds comply with current safety regulations and this safety policy and procedure.
- Provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure

POLICY

Scaffolding has a variety of applications. It is used in new construction, alteration, routine maintenance, renovation, painting, repairing, and removal activities. Scaffolding offers a safer and more comfortable work arrangement compared to leaning over edges, stretching overhead, and working from ladders. Scaffolding provides employees safe access to work locations, level and stable working platforms, and temporary storage for tools and materials for performing immediate tasks. Scaffolding accidents mainly involve personnel falls and falling materials caused by equipment failure, incorrect operating procedures, and environmental conditions. Additionally, scaffolding overloading is a frequent single cause of major scaffold failure. This safety policy and procedure provides guidelines for the safe use of scaffolds. It includes training provisions and guidelines for scaffold erection and use.

Scaffolds shall be erected, moved, dismantled, or altered only under the supervision of a competent person and will have guardrails and toe boards installed. When scaffolding hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Scaffolds will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

SAFE SCAFFOLD ERECTION AND USE

Unsafe equipment or conditions must be tagged out by Competent Person and must be complied with.

Safe scaffold erection and use is important in minimizing and controlling the hazards associated with their use. Scaffold work practices and rules should be based on:

- Sound design
- Selecting the right scaffold for the job
- Assigning personnel

- Fall protection
- Guidelines for proper erection
- Guidelines for use
- Guidelines for alteration and dismantling
- Inspections
- Maintenance and storage

TYPES OF SCAFFOLDS

There are many different types of scaffolds; three major categories are:

- Self-supporting scaffolds
- Suspension scaffolds
- Special use scaffolds

Self-supporting scaffolds are one or more working platforms supported from below by outriggers, brackets, poles, legs, uprights, posts, frames, or similar supports. The types of self-supporting scaffolds include:

- Fabricated Frame
- Tube and Coupler
- Mobile
- Pole

Suspension scaffolds are one or more working platforms suspended by ropes or other means from an overhead structures(s). The types of suspension scaffolds include:

- Single-Point Adjustable (Boatswain's Chairs)
- Two-Point Adjustable (Swing Stage)
- Multiple-Point Adjustable
- Multi-Lend
- Category
- Float (Ship)
- Interior Hung
- Needle Beam

Special use scaffolds and assemblies are capable of supporting their own weight and at least 4-times the maximum intended load. The types of special use scaffolds include:

- Form and Carpenter Bracket
- Roof Bracket
- Outrigger
- Pump Jack
- Ladder Jack

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- Window Jack
- Horse
- Crawling Boards
- Step, Platforms, and Trestle Ladder

SAFETY GUIDELINES

- The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks.
- No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons or as requested for corrective reasons by Safety and Loss Control Personnel.
- Guardrails and toe boards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats. Scaffolds 4 feet to 10 feet in height having a minimum horizontal dimension in either direction of less than 45 inches shall have standard guardrails installed on all open sides and ends of the platform.
- Guardrails must be 2 X 4 inches, or the equivalent, not less than 36 inches or more than approximately 42 inches high, with a mid-rail, when required, of 1 X 4-inch lumber, or the equivalent. Supports must be at intervals not to exceed 8 feet. Toe board and the guardrail shall extend along the entire opening.
- Scaffolds and their components must be capable of supporting without failure at least 4 times the maximum intended load.
- Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders, couplers, etc., damaged or weakened from any cause must be repaired or replaced immediately, and shall not be used until repairs have been completed.
- All load-carrying timber members of scaffold framing shall be a minimum of 1,500 fiber (Stress Grade) construction grade lumber.
- All planking must be Scaffold Grades, or equivalent, as recognized by approved grading rules for the species of wood used. The maximum permissible span for 2 X 9 inch or wider planks is shown in the following:
 - The maximum permissible span for 1-1/4 X 9 inch or wider plank of full thickness shall be 4 feet with medium duty loading of 50 p.s.f.
 - All planking or platforms must be overlapped (minimum 12 inches) or secured from movement.
- An access ladder or equivalent safe access must be provided.
- Scaffold plank must extend over their end supports not less than 6 inches nor more than 18 inches.
- The poles, legs, or uprights of scaffolds must be plumb and securely and rigidly braced to prevent swaying and displacement.

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- Overhead protection must be provided for men on a scaffold exposed to overhead hazards.
- Slippery conditions on scaffolds shall be eliminated immediately after they occur.
- No welding, burning, riveting, or open flame work shall be performed on any staging suspended by means or fiber of synthetic rope. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals.
- Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting at least 6 times the intended load.
- Scaffolds shall be provided with a screen between the toe board and guardrail, extending along the entire opening, consisting of No. 18-gauge U.S. Standard wire one-half inch mesh or the equivalent, when personnel are required to work or pass underneath the scaffolds.
- A safe distance from energized power lines shall be maintained.
- Tag lines shall be used to hoist materials to prevent contact. Suspension ropes shall be protected from contact with heat sources (welding, cutting, etc.) and from acids or other corrosive substances.
- Scaffolds shall not be used during high wind and storms.
- Ladders and other devices shall not be used to increase working heights on scaffold platforms.
- Scaffolds shall not be moved while employees are on them.
- Loose materials, debris, and/or tools shall not be accumulated to cause a hazard.
- Employees working on suspended scaffolds shall employ a fall-arrest system.
- Scaffold components shall not be mixed or forced to fit which may reduce design strength.
- Scaffolds and components shall be inspected at the erection location by a "competent person." Scaffolds shall be inspected by a "competent person" before each work shift, after changing weather conditions, or after prolonged work interruptions.
- Casters and wheel stems shall be pinned or otherwise secured in scaffold legs. Casters and wheels must be positively locked if in a stationary position.
- Tube and coupler scaffolds shall be tied to and securely braced against the building at intervals not to exceed 30 feet horizontally and 26 feet vertically.

TRAINING

Training shall be provided to all employees regarding hazards by Qualified Persons in the subject matter prior to initial assignment.

Training will address:

- Fall protection
- Electrical safety
- Falling object protection
- Scaffold use
- Load capacity

Retraining

Retraining is required when any of the following situations occur:

- Where changes at the worksite present a hazard about which an employee has not been previously trained;
- Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained;
- Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

DEFINITIONS

Brace: A tie that holds one scaffold member in a fixed position with respect to another member. Brace also means a rigid type of connection holding a scaffold to a building or structure.

Coupler: A device for locking together the component tubes of a tube and coupler scaffold.

Harness: A design of straps which is secured about the employee in a manner to distribute the arresting forces over at least the thighs, shoulders, and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration device.

Hoist: A mechanical device to raise or lower a suspended scaffold. It can be mechanically powered or manually operated.

Maximum Intended Load: The total load of all employee, equipment, tool, materials, transmitted, wind, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

Mechanically Powered Hoist: A hoist which is powered by other than human energy.

Outriggers: The structural member of a supported scaffold used to increase the base width of a scaffold in order to provide greater stability for the scaffold.

Platform: The horizontal working surface of a scaffold.

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Safety Belt: A strap with means for securing about the waist or body and for attaching to a lanyard, lifeline, or deceleration device.

Scaffold: Any temporary elevated or suspended platform and its supporting structure used for supporting employees or materials or both, except this term does not include crane or derrick suspended personnel platforms.

Qualified Person: The OSHA Definition of a Qualified Person - "One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project."

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Short Service Employee

PURPOSE

The purpose of this document is to outline safety policy and procedures newly placed, or Short Service Employees of **RUDTUK**; hereafter referred to as "The Company." This program is intended to help new employees, whether experienced or inexperienced, remain safe and on the job.

RESPONSIBILITIES

Management

The responsibilities of company leadership and management are to set expectations, evaluate effectiveness and:

- Make and demonstrate a personal commitment to a strong and functional Health Safety and Environmental work culture,
- Establish a written, signed and dated HSE policy that sets compliance expectations for management and employees,
- Provide employees access to company policies, standards and procedures,
- Establish written HSE Orientation and Short Service Employee Programs for all employees newly assigned to any job or task,
- Ensure that all employees new to a job assignment are identified to the responsible supervisor(s) and placed into the HSE Orientation and Short Service Employee Programs, and
- Audit, review performance and take timely corrective actions to continually improve the effectiveness of the orientation and Short Service Employee Programs.

Supervisor

The responsibilities of Supervisors in the Short Service Employee Program are:

- Know which jobs and crews are using Short Service Employees,
- Ensure Short Service Employees are appropriately identified per this plan,
- Develop and communicate Job Safety Analyses (JSAs) to affected personnel upon initial assignment and when the operation changes,
- Ensure Short Service Employee Mentor possesses proper knowledge and skills in the job task assigned,
- Ensure Short Service Employee Mentor is adequately training SSE,
- Ensure Short Service Employee is gaining the necessary knowledge and skills in the job tasks, and
- Follow all safety rules and company policies.

Mentor

The responsibilities of the Mentor in the Short Service Employee Program are to:

- Be an experienced and responsible person assigned by the supervisor to work with the new employee,
- Be selected based on a history of safe work and policy/procedural knowledge,
- Be able to communicate the expectations and characteristics of work tasks and their associated hazards,
- Have a patient disposition, as well as the desire and willingness to devote the necessary time to succeed as a mentor,
- Possess knowledge and skills in the job tasks assigned to the SSE,
- Be willing and able to effectively listen to the SSE to determine if the SSE is learning and retaining the knowledge being shared,
- Be willing to watch an SSE perform a job without interfering as long as the SSE is not in a position to harm themselves, others, the environment or the equipment,
- Adopt a positive safety attitude, avoid criticism, and strive to build confidence and self-esteem in the SSE,
- Be able to teach the SSE the proper way to create a quality JSA and to follow that JSA in performing tasks,
- Keep abreast of new equipment in their field of expertise,
- Refrain from taking shortcuts and doing anything else that jeopardizes health or safety,
- Demonstrate a positive work ethic at all times, and
- Introduce the **SSE Checklist** to the new employee. The checklist is a tool to train the new employee and monitor progress,
- Review the checklist with the new employee periodically over a six-month period, and forward the information for supervisor and management review, and
- Follow all company policies and procedures.

Short Service Employee

The responsibilities of the Short Service Employee are to:

- Be willing to watch and listen to the Mentor,
- Establish a positive safety attitude toward assigned job tasks,
- Learn how to create and follow JSAs,
- Be willing to learn how to do each task in a safe and environmentally sound manner,
- Stop and report unsafe conditions immediately,
- Participate in safety meetings, and
- Follow all safety rules and company policies.

HSE Coordinator Responsibilities

The responsibilities of the HSE Coordinator in the Short Service Employee Program are to:

- Serve as subject matter resource to support the Supervisor and SSE
- Ensure the SSE gets the necessary safety training, and

- Follow all policies and procedures

POLICY

This procedure applies to all company facilities and worksites. It is important to ensure that newly placed employees work under the direction of experienced personnel.

Short Service Employees should make up no more than 50% of a single crew at one time, and a crew of 5 employees or less should include no more than one Short Service Employee at a time. This program applies to all personnel, employees and sub-contractors performing work on behalf of The Company.

A Short Service Employee, hereafter referred to as SSE should be under this program for at least six (6) months and until the SSE demonstrates the knowledge and skills necessary to perform their tasks safely, as an employee is generally considered a "Short Service Employee" if he/she has less than 6 months' experience with his/her present employer, or in his/her present role.

A Short Service Employee may not work alone and a work crew of less than 5 employees may not have more than one Short Service Employee.

NOTIFICATION

Prior to starting work, the contractor shall notify the host facility (project coordinator, contract contact, and/or on-site supervisor) if Short Service Employees are present on work crews.

ORIENTATION

- Management will provide a company-approved orientation. The orientation will include a Job Orientation Checklist that the supervisor reviews with each newly hired employee.
- Each SSE will be provided orientation specifically based on job position and job-related topics prior to performing job tasks.
- Each SSE will be taught how to access company policies, standards and procedures.
- Satisfactory completion of the orientation must be signed and dated by the employee and supervisor.

TRAINING

The supervisor will ensure that each SSE is properly trained per federal, state, industry, company and operator requirements before starting work when:

- The employee is hired;
- The employee is appointed a new job assignment; and

- The employee is exposed to new substances, processes, procedures, equipment, etc. that represent a new hazard to the employee.

The supervisor will ensure that each SSE is properly trained in:

- All foreseeable hazard(s) present in the workplace;
- Policies, procedures, processes and PPE utilized to control these hazards and prevent illnesses, injuries, property damage and/or environmental incidents; and
- The skills necessary to conduct their assigned jobs safely and efficiently while providing quality and economy.

IDENTIFICATION SYSTEMS

It is important for supervisors, co-workers and project managers to recognize a Short Service Employee; therefore, an identification system is developed for this purpose. The identification system is a means of communicating to the workforce that the Short Service Employee is in a transitional period. It will not be a designation of in-experience or used to mark an employee as having lower skill sets.

The SSE will be identified by a vest, colored hardhat, decal or high visibility piece of clothing or PPE that prominently identifies the employee as an SSE employee. The specific method of identification will be communicated to the client on each worksite.

A mentoring system shall be implemented to provide guidance to Short Service Employees and assist with their development. A mentor may only be assigned to one crew that includes Short Service Employees, and he/she must remain on site with them.

The Supervisor and the SSE Mentor will provide supervision and not allow the SSE to perform any task in which they have not been properly trained. The Supervisor and the SSE Mentor will ensure that the SSE understands the task to be performed and the associated hazards. The Supervisor shall remove the decals and other identifiers upon expiration of the SSE term, and after verifying that the SSE exhibits a knowledge and skill level to perform the job tasks assigned.

Subcontractors must manage their Short Service Employees in accordance with the requirements of the Short Service Employee program.

DEFINITIONS

Mentoring - a process of transferring skills and knowledge from one person to another in a work environment.

Supervisor – The individual responsible for the direct supervision and oversight of an employee.

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Short Service Employee (SSE) – A newly placed full-time or temporary employee or subcontractor with less than six months’ experience in assigned job.

Short Service Employee Mentor - Person with at least 6 months’ employment with The Company who has demonstrated safe and efficient work habits.

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Short Service Employee - US

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Stop Work Authority

PURPOSE

The purpose of this procedure is to ensure that all employees of **RUDTUK**; hereafter referred to as "The Company," are given the responsibility and authority to stop work when employees believe that a situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger; could adversely affect the safe operation or cause damage to the facility; and provides a method to resolve the issue. Maintaining a diligent questioning attitude is vital to safe execution of work-scope and is a cornerstone to effective Conduct of Operations and Integrated Safety Management.

This procedure extends the authority to stop work to situations where an employee believes there is a need to clarify work instructions; or to propose additional controls.

RESPONSIBILITIES

Management

- Resolve any issues that have resulted in an individual stopping a specific task(s) or activity
- Provide feedback to individual/s and the affected work group who have exercised their Stop Work responsibility on the resolution of their concern prior to resuming work. If the employee that issued a stop work is not available due to reasons such as vacation, PTB, PTO, shift change, or training then the supervisor provides the feedback to the safety representative and union safety representative, prior to resuming work
- Ensure no actions are taken as reprisal or retribution against individuals who raise safety concerns or stop an activity, they believe is unsafe

Safety Officer

- Assist employees, supervision and management in the resolution of safety issues and concerns
- Immediately contact management and work to resolve issues when an employee has called a situation to their attention that has not been resolved
- Discuss resolution with employees involved in a work stoppage where resolution was completed after their shift or when they were unavailable, or where he/she acted as their representative in reaching resolution
- Work as the agent of an employee that prefers to remain anonymous to work directly in the resolution of the stop work

Employees

- In supporting safe execution of work, all personnel, have the following responsibilities
- The responsibility and authority to stop work or decline to perform an assigned task without fear of reprisal, to discuss and resolve work and safety concerns. The Stop Work may include discussions with co-workers, supervision, or safety representative to resolve work related issues, address potential unsafe conditions, clarify work instructions, propose additional controls, etc.
- The responsibility and authority to initiate a Stop Work IMMEDIATELY, without fear of reprisal, when the employee believes a situation exists which places himself/herself, a coworker(s), or the environment in danger or at risk
- The responsibility to report any activity or condition the employee believes is unsafe or for which they have initiated a Stop Work. Notification should be made to the affected worker(s) and to the supervisor or their supervisor's designee at the location where the activity or condition exists
- The responsibility to notify their supervisor if a raised Stop Work issue has not been resolved to their satisfaction through established channels prior to the resumption of work

POLICY

All employees have the authority and obligation to stop any task or operation where concerns or questions regarding the control of HSE risk exist.

Stop work if an activity or condition is believed to be unsafe, such as:

- A situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger;
- A situation could adversely affect the safe operation or cause damage to the facility;
or
- A situation could result in a release of radiological or chemical effluents to the environment above regulatory requirements or approvals.
- To clarify work instructions or to propose additional controls.

A member of management will resolve any issues that have resulted in an employee stopping work or an activity, as well as:

- Involve individuals who initiated the Stop Work or their appropriate safety representatives if the individual is not available, in reaching mutual agreement on the resolution or proposed actions necessary to return to work.
- Be sure any necessary corrective or compensatory actions are taken before resuming an activity and are documented.

If a Stop Work has not been resolved to the mutual agreement of manager and employee, then the stop work remains in place and the Supervisor will notify the appropriate company management/safety representative.

No work will resume until all stop work issues and concerns have been adequately addressed.

Every employee, has the responsibility and authority to stop work IMMEDIATELY, without fear of reprisal, when the employee believes:

- Conditions exist that pose a danger to the health and safety of workers or the public;
or
- Conditions exist, that if allowed to continue, could adversely affect the safe operation of, or could cause serious damage to, a facility.

REPORTING UNSAFE CONDITIONS

Employees are responsible to initiate a Stop Work Intervention when warranted and management is responsible to create a culture where Stop Work Authority is exercised freely.

When an unsafe condition is identified the Stop Work Intervention will be initiated, coordinated through the supervisor, initiated in a positive manner, notify all affected personnel and supervision of the stop work issue, correct the issue, and resume work when safe to do so.

Employees are expected to report any activity or condition which he or she believes is unsafe. Notification should be made to the affected worker(s) and then to the supervisor or designee at the location where the activity or condition exists.

- Following notification, resolution of the issue resides with the responsible supervisor.

RIGHT TO A SAFE WORKPLACE

Any employee who reasonably believes that an activity or condition is unsafe is expected to stop or refuse work without fear of reprisal by management or coworkers and is entitled to have the safety concern addressed prior to participating in the work.

Any form of retribution or intimidation directed at any individual or company for exercising their right to issue a stop work authority will not be tolerated.

DOCUMENTATION

All Stop Work Interventions shall be documented for lessons learned and corrective measures to be put into place. Stop Work reports shall be reviewed by a supervisor or manager in order to measure participation, determine quality of interventions and follow-up, trend common issues, identify opportunities for improvement, and facilitate sharing of learnings.

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TRAINING

Employees must receive Stop Work Authority training before initial assignment, and the training must be documented including the employee name, the dates of training and subject.

FOLLOW UP

It is the desired outcome of any Stop Work Intervention that the identified safety concern(s) have been addressed to the satisfaction of all involved persons prior to the resumption of work. Most issues can be adequately resolved in a timely manner at the job site, occasionally additional investigation and corrective actions may be required to identify and address root causes.

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Stop Work Authority - US

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Subcontractor Management Plan

PURPOSE

The purpose of this document is to outline the Subcontractor pre-qualification, evaluation, selection and monitoring process for **RUDTUK**; hereafter referred to as "The Company."

RESPONSIBILITIES

Management

- Will ensure roles associated with supervision and direction provided to subcontractors.
- Apply safe work procedures to ensure contract employees are aware of hazards associated with work to be performed through hazard assessment and/or inspections.

PREQUALIFICATION PROCESS

The Company will ensure that all contractors and subcontractors, have a current, up-to-date and functioning safety program through the following process:

- Initial and periodic review of written safety programs/policies and procedures to ensure accuracy with relevant legislation, and that that all employees working on behalf of the contractor/subcontractor are trained in the written plan.
- Initial and periodic review of all safety training documents including certifications that may apply.
- Initial and periodic review of safety statistical data.

METRICS EVALUATION/MONITORING

Prior to initial assignment, The Company will perform an evaluation of all contractors and subcontractors' safety metrics including TRIR, EMR, DART and Fatality Rate as criteria for making hiring decisions. A benchmark of relevant industry specific BLS (Bureau of Labor Statistics) industry average will be used to compare with contractor and subcontractor's current statistics to ensure only the safest contractors are allowed to perform work on behalf of The Company.

CONTRACTOR AND SUBCONTRACTOR PARTICIPATION

All contractors and subcontractors performing work on behalf of The Company, or on worksites that are under the supervision of The Company will be required to attend all pre-job meetings or kick-off meetings as well as safety orientations and tailgate safety meetings.

In addition to kick-off meetings, subcontractors shall be included in all tailgate safety meetings, job safety analysis/hazard assessments, and on the job safety inspections.

RECORDKEEPING

Written and Documentation Requirements

Our organization has taken the following incident/injury recordkeeping and reporting procedures:

3. Records of scheduled and periodic inspections including the person(s) conducting the inspection, the workplace hazards (i.e., unsafe conditions and work practices that have been identified) and the action(s) taken to correct the identified unsafe conditions and work practices, are recorded on the Hazard Assessment Checklist* and the Identified Hazards and Correction Record* and the Investigation/Corrective Action Report*. These records are maintained for at least one (1) year.
4. Documentation of safety and health training for each worker, including the worker's name or other identifier, training dates, type(s) of training, and training providers are recorded on the Worker Training and Instruction Record*. This documentation is maintained for at least one (1) year.

In accordance with OSHA regulations, The Company will keep records of fatalities, injuries and illnesses. Specifically, The Company will keep record of each fatality, injury and illness that:

- Is work-related; and
- Is a new case; and
- Meets one or more of the general recordkeeping criteria.

REVIEW AND FOLLOW UP

Upon conclusion of each job, The Company perform a post-job safety performance review with all contractors and subcontractors. Continual follow up and discussions about safety performance will help The Company maintain safe and healthy worksites.

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Trenching, Shoring and Excavation

PURPOSE

The purpose of this document is to outline safety policy and procedures for the protection of employees working in and around excavations and trenches for **RUDTUK**; hereafter referred to as "The Company."

This program pertains to all of The Company projects that require any excavations or trenching work.

RESPONSIBILITIES

It is the responsibility of each superintendent and supervisor to implement and maintain the procedures and steps set forth in this program. Each employee involved with excavation and trenching work is responsible to comply with all applicable safety procedures and requirements of this program.

HAZARDS

One of the reasons The Company requires a competent person on-site during excavation and trenching are the numerous potential hazardous that may be encountered or created. Hazards include:

- Electrocutation
- Gas Explosion
- Entrapment
- Struck by equipment
- Suffocation
-

HAZARD CONTROLS

Before any work is performed and before any employees enter the excavation, a number of items must be checked and insured:

- Before any excavation, underground installations must be determined. This can be accomplished by either contacting the local utility companies or the local "one-call" center for the area. All underground utility locations must be documented on the proper forms. All overhead hazards (surface encumbrances) that create a hazard to employees must be removed or supported to eliminate the hazard.
- If the excavation is to be over 20 feet deep, it must be designed by a registered professional engineer who is registered in the state where work will be performed.

- Adequate protective systems will be utilized to protect employees. This can be accomplished through sloping, shoring, or shielding.
- The worksite must be analyzed in order to design adequate protection systems and prevent cave-ins. There must also be an excavation safety plan developed to protect employees.
- Workers must be supplied with and wear any personal protective equipment deemed necessary to assure their protection.
- All spoil piles will be stored a minimum of four (4) feet from the sides of the excavation. The spoil pile must not block the safe means of egress.
- If a trench or excavation is 4 feet or deeper, stairways, ramps, or ladders will be used as a safe means of access and egress. For trenches, the employee must not have to travel any more than 25 feet of lateral travel to reach the stairway, ramp, or ladder.
- No employee will work in an excavation where water is accumulating unless adequate measures are used to protect the employees.
- Employees must be protected from water accumulation, including the use of shields, and must be inspected by a competent person before work begins.
- A competent person will inspect all excavations and trenches daily, prior to employee exposure or entry, and after any rainfall, soil change, or any other time needed during the shift. The competent person must take prompt measures to eliminate any and all hazards.
- Excavations and trenches 4 feet or deeper that have the potential for toxic substances or hazardous atmospheres will be tested at least daily. If the atmosphere is inadequate, protective systems will be utilized.
- If work is in or around traffic, employees must be supplied with and wear orange reflective vests. Signs and barricades must be utilized to ensure the safety of employees, vehicular traffic, and pedestrians.

COMPETENT PERSON RESPONSIBILITIES

The OSHA Standards require that the competent person must be capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and have authorization to take prompt corrective measures to eliminate them and, if necessary, to stop the work.

Competent persons should examine the possibility of cave-ins, failures or protective systems, etc. If problems are found, provisions should be made for immediate personnel removal.

The Competent Person should be specified, and his duties described. Duties might include inspections prior to entry, atmospheric testing, removal of workers if conditions dictate.

A Competent Person is required to:

- Have a complete understanding of the applicable safety standards and any other data provided.
- Assure the proper locations of underground installations or utilities, and that the proper utility companies have been contacted.
- Conduct soil classification tests and reclassify soil after any condition changes.
- Determine adequate protective systems (sloping, shoring, or shielding systems) for employee protection.
- Conduct all air monitoring for potential hazardous atmospheres.
- Conduct daily and periodic inspections of excavations and trenches.
- Approve design of structural ramps, if used.

EXCAVATION SAFETY PLAN

An excavation safety plan is required in written form. This plan is to be developed to the level necessary to insure complete compliance with the OSHA Excavation Safety Standard and state and local safety standards.

Excavation Safety Plan factors:

- Utilization of the local one-call system
- Determination of locations of all underground utilities
- Consideration of confined space atmosphere potential
- Proper soil protection systems and personal protective equipment and clothing
- Determination of soil composition and classification
- Determination of surface and subsurface water
- Depth of excavation and length of time it will remain open
- Proper adherence to all OSHA Standards, this excavation and trenching safety program, and any other coinciding safety programs

SOIL CLASSIFICATION AND IDENTIFICATION

The OSHA Standards define soil classifications within the Simplified Soil Classification Systems, which consist of four categories: Stable rock, Type A, Type B, and Type C. Stability is greatest in stable rock and decreases through Type A and B to Type C, which is the least stable. Appendix A of the Standard provides soil mechanics terms and types of field tests used to determine soil classifications.

Stable rock is defined as natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Soil classifications must be determined by testing and protective systems designed according to soil classifications.

Type A soil is defined as:

- Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (TSF) or greater.
- Cemented soils like caliche and hardpan are considered Type A.

Soil is NOT Type A if:

- It is fissured.
- The soil is subject to vibration from heavy traffic, pile driving or similar effects.
- The soil has been previously disturbed.
- The material is subject to other factors that would require it to be classified as a less stable material.
- The exclusions for Type A most generally eliminate it from most construction situations.

Type B soil is defined as:

- Cohesive soil with an unconfined compressive strength greater than .5 TSF, but less than 1.5 TSF.
- Granular cohesionless soil including angular gravel, silt, silt loam, and sandy loam.
- The soil has been previously disturbed except that soil classified as Type C soil.
- Soil that meets the unconfined compressive strength requirements of Type A soil but is fissured or subject to vibration.
- Dry rock that is unstable.

Type C soil is defined as:

- Cohesive soil with an unconfined compressive strength of .5 TSF or less.
- Granular soils including gravel, sand and loamy sand.
- Submerged soil or soil from which water is freely seeping.
- Submerged rock that is not stable.

SOIL TEST AND IDENTIFICATION

The competent person will classify the soil type in accordance with the definitions in Appendix A on the basis of at least one visual and one manual analysis. These tests should be run on freshly excavated samples from the excavation and are designed to determine stability based on a number of criteria: the cohesiveness, the presence of fissures, the presence and amount of water, the unconfined compressive strength, the duration of exposure, undermining, and the presence of layering, prior excavation and vibration.

The cohesion tests are based on methods to determine the presence of clay. Clay, silt, and sand are size classifications, with clay being the smallest sized particles, silt intermediate and sand the largest. Clay minerals exhibit good cohesion and plasticity (can be molded). Sand exhibits no elasticity and virtually no cohesion unless surface wetting is present. The degree of cohesiveness and plasticity depend on the amounts of all three types and water.

When examining the soil, three questions must be asked: Is the sample granular or cohesive? Fissured or non-fissured? What is the unconfined compressive strength measured in TSF?

The location of underground installations shall be determined before excavation. When utility companies or clients cannot respond to a request to locate underground utility installations within 24 hours, or cannot establish exact location of these installations, the employer may proceed, provided the employer does so with caution and provided detection equipment or other acceptable means to locate utility installations are used.

Methods of Testing Soils

- **Visual test:** If the excavated soil is in clumps, it is cohesive. If it breaks up easily, not staying in clumps, it is granular.
- **Wet manual test:** Wet your fingers and work the soil between them. Clay is a slick paste when wet, meaning it is cohesive. If the clump falls apart in grains, it is granular.
- **Dry strength test:** Try to crumble the sample in your hands with your fingers. If it crumbles into grains, it is granular. Clay will not crumble into grains, only into smaller chunks.
- **Pocket penetrometer test:** This instrument is most accurate when soil is nearly saturated. This instrument will give unconfined compressive strength in tons per square foot. The spring-operated device uses a piston that is pushed into a coil up to a calibration groove. An indicator sleeve marks and retains the reading until it is read. The reading is calibrated in tons per square foot (TSF) or kilograms per cubic centimeter.
- **Thumb penetration test:** The competent person attempts to penetrate a fresh sample with thumb pressure. If the sample can be dented, but penetrated only with great effort, it is Type A. If it can be penetrated several inches and molded by light pressure, it is Type C. Type B can be penetrated with effort and molded.
- **Shearvane:** Measures the approximate shear strength of saturated cohesive soils. The blades of the vane are pressed into a flat section of undisturbed soil, and the knob is turned slowly until soil failure. The dial is read directly when using the standard vane. The results will be in tons per square foot or kilograms per cubic centimeter.

The competent person will perform several tests of the excavation to obtain consistent, supporting data along its depth and length. The soil is subject to change several times within the scope of

an excavation and the moisture content will vary with weather and job conditions. The competent person must also determine the level of protection based on what conditions exist at the time of the test and allow for changing conditions.

Tests should be conducted for air contaminants (oxygen, flammable gases, etc. and provide ventilation where necessary.

- Railings and guardrails will be utilized to protect against falls.

EXCAVATION PROTECTION SYSTEMS

The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields.

The protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted to the system. Every employee in an excavation shall be protected from cave-ins by an adequate protective system.

Exceptions to using protective system:

- Excavations are made entirely in stable rock;
- Excavations are less than 5 feet deep and declared safe by a competent person.

Trench excavations shall have ramps, ladders, stairs, etc.; the means of egress must be within 25 feet of lateral travel for employees.

Employees should not work under loads of digging equipment where loads may fall.

SLOPING AND BENCHING SYSTEMS

There are four options for sloping:

1. Slope to the angle required by the Standard for Type C, which is the most unstable soil type.
2. The table provided in [Appendix B of the Standard](#) may be used to determine the maximum allowable angle (after determining the soil type).
3. Tabulated data prepared by a registered professional engineer can be utilized.
4. A registered professional engineer can design a sloping plan for a specific job.

Sloping and benching systems for excavations five (5) to twenty (20) feet in depth must be constructed under the instruction of a designated competent person.

Sloping and benching systems for excavations greater than twenty (20) feet must be designed and stamped by a registered professional engineer.

Sloping and benching specifications can be found in [Appendix B of the OSHA Standard \(Subpart P\)](#).

SHORING SYSTEMS

Shoring is another protective system or support system. Shoring utilizes a framework of vertical members (uprights), horizontal members (whales), and cross braces to support the sides of the excavation to prevent a cave-in. Metal hydraulic, mechanical or timber shoring is common examples.

The different examples of shoring are found in the OSHA Standard under these appendices:

[APPENDIX C - Timber Shoring for Trenches](#)

[APPENDIX D - Aluminum Hydraulic Shoring for Trenches](#)

[APPENDIX E - Alternatives to Timber Shoring](#)

SHIELD SYSTEMS (Trench Boxes)

Shielding is the third method of providing a safe workplace. Unlike sloping and shoring, shielding does not prevent a cave-in. Shields are designed to withstand the soil forces caused by a cave-in and protect the employees inside the structure. Most shields consist of two flat, parallel metal walls that are held apart by metal cross braces.

Shielding design and construction is not covered in the OSHA Standards. Shields must be certified in design by a registered professional engineer and must have either a registration plate on the shield or registration papers from the manufacturer on file at the jobsite office. **ANY REPAIRS OR MODIFICATIONS MUST BE APPROVED BY THE MANUFACTURER.**

SAFETY PRECAUTIONS FOR SHIELD SYSTEMS

- Shields must not have any lateral movement when installed.
- Employees will be protected from cave-ins when entering and exiting the shield (examples - ladder within the shield or a properly sloped ramp at the end).
- Employees are not allowed in the shield during installation, removal, or during any vertical movement.
- Shields can be 2 ft. above the bottom of an excavation if they are designed to resist loads at the full depth and if there are no indications of caving under or behind the shield.
- The shield must extend at least 18 inches above the point where proper sloping begins (the height of the shield must be greater than the depth of the excavation).
- The open end of the shield must be protected from the exposed excavation wall. The wall must be sloped, shored, or shielded. Engineer designed end plates can be mounted on the ends of the shield to prevent cave-ins.

PERSONAL PROTECTION EQUIPMENT (PPE)

It is The Company policy to wear a hard hat, safety glasses, and work boots on the jobsite. Because of the hazards involved with excavations, other personal protective equipment may be

necessary, depending on the potential hazards present (examples -goggles, gloves, and respiratory equipment).

INSPECTIONS

Daily inspection of excavations, the adjacent areas and protective systems shall be made by the competent person for evidence of a situation that could result in a cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.

- All inspections shall be conducted by the competent person prior to the start of work and as needed throughout the shift.
- Inspections will be made after every rainstorm or any other increasing hazard.
- All documented inspections will be kept on file in the jobsite safety files and forwarded to the Safety Director weekly.
- A copy of the Daily Excavation Inspection form is located at the end of this program.

TRAINING

The competent person(s) must be trained in accordance with the OSHA Excavation Standard, and all other programs that may apply (examples Hazard Communication, Confined Space, and Respiratory Protection), and must demonstrate a thorough understanding and knowledge of the programs and the hazards associated. All other employees working in and around the excavation must be trained in the recognition of hazards associated with trenching and excavating.

DEFINITIONS

BENCHING - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.

CAVE-IN - The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by failing or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

COMPETENT PERSON - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

DURATION OF EXPOSURE - The longer an excavation is open, the longer the other factors have to work on causing it to collapse.

EXCAVATION - Any man-made cut, trench, or depression in an earth surface, formed by earth removal.

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HAZARDOUS ATMOSPHERE - An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

PROTECTIVE SYSTEM - A method of protecting employees from cave-ins, from material that could fall or roll from an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide necessary protection.

SHIELD - A structure that is capable of withstanding the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. All shields must be in accordance with [29 CFR 1926.652\(c\)3 or \(c\)4](#).

SLOPING - A method of protecting workers from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences such as soil type, length of exposure, and application of surcharge loads.

SURCHARGE LOADS - Generated by the weight of anything in proximity to the excavation, push starts for a cave-in (anything up top pushing down). Common surcharge loads:

- Weight of spoil pile
- Weight of nearby buildings, poles, pavement, or other structural objects
- Weight of material and equipment

TRENCH - A narrow excavation below the surface of the ground, less than 15 feet wide, with a depth no greater than the width.

UNDERMINING - Undermining can be caused by such things as leaking, leaching, caving or over-digging. Undermined walls can be very dangerous.

VIBRATION - A force that is present on construction sites and must be considered. The vibrations caused by backhoes, dump trucks, compactors and traffic on job sites can be substantial.

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Welding, Cutting and Hot Work

PURPOSE

The purpose of this document is to outline the Welding, Cutting, Hot Work safety policy for **RUDTUK**; hereafter referred to as "The Company." Welding and Hot Work, such as brazing or grinding present a significant opportunity for fire and injury. All precautions of this program must be applied prior to commencing any welding or hot work by company employees or contractors.

RESPONSIBILITIES

Management

- Provide training for all employees whose task include heat, spark or flame producing operations such as welding, brazing, or grinding
- Develop and monitor effective hot work procedures
- Provide safe equipment for hot work
- Provide proper and effective PPE for all hot work

Supervisors

- Monitor all hot work operations
- Ensure all hot work equipment and PPE are in safe working order
- Allow only trained and authorized employees to conduct hot work
- Ensure permits are used for all hot work outside authorized areas

Employees

- Follow all hot work procedures
- Properly use appropriate hot work PPE
- Inspect all hot work equipment before use
- Report any equipment problems

Never use damaged hot work equipment.

HAZARDS

- Fires and Explosions
- Skin burns
- Welding "blindness"
- Respiratory hazards from fumes and smoke

TRAINING

Individuals performing welding/cutting must be suitably trained in the safe operations of their equipment and the safe use of the process.

Training shall include:

- Review of requirements listed in [OSHA 1910.252](#)
- Use of Hot Works Permit System
- Supervisor Responsibilities

FIRE WATCH

A fire watch is required when welding, cutting, brazing and/or soldering is performed near combustible materials and/or in locations where fire may develop.

Fire watchers shall have fire extinguishers readily available.

Fire Watch Responsibilities - The fire watch must know:

- That their ONLY duty is Fire Watch
- When they can terminate the watch
- How to use the provided fire extinguisher
- How to activate fire alarm if fire is beyond the incipient stage
- Operator Responsibilities
- Contractors Responsibilities
- Documentation requirements
- Respirator Usage requirements
- Fire Extinguisher training

A fire watch shall be maintained at least a half an hour after the welding or cutting operation was completed

Assigned fire watchers must be trained in the use of fire extinguishing equipment and familiar with the facilities for sounding an alarm in the event of a fire.

Hot Work Procedures

- Where practicable all combustibles shall be relocated at least 35 feet from the work site. Where relocation is impractical, combustibles shall be protected with flame proof covers, shielded with metal, guards, curtains, or wet down material to help prevent ignition of material.
- Ducts, conveyor systems, and augers that might carry sparks to distant combustibles shall be protected or shut down.

- Where cutting or welding is done near walls, partitions, ceilings, or a roof of combustible construction, fire-resistant shields or guards shall be provided to prevent ignition.
- If welding is to be done on a metal wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side, due to conduction or radiation of heat. Where combustibles cannot be relocated on the opposite side of the work, a fire watch person shall be provided on the opposite side of the work.
- Welding shall not be attempted on a metal partition, wall, ceiling or roof having a covering nor on walls having combustible sandwich panel construction.
- Cutting or welding on pipes or other metal in contact with combustible walls, partitions, ceilings, or roofs shall not be undertaken if the work is close enough to cause ignition by combustion.
- If the object to be welded or cut cannot readily be moved, all moveable fire hazards should be removed.
- If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards, shields, fire blankets, etc. shall be used to confine the heat, sparks and slag and to protect the immovable fire hazards.

Cutting or Welding Shall Not Be Permitted in the Following Situations:

- In areas not authorized by management.
- In sprinkled buildings while such protection is impaired.
- In the presence of potentially explosive atmospheres, e.g. a flammable.
- In areas near the storage of large quantities of exposed, readily ignitable materials.
- In areas where there is dust accumulation of greater than 1/16 inch within 35 feet of the area where welding/hot works will be conducted. All dust accumulation should be cleaned up following the housekeeping program of the facility before welding/hot works are permitted.
- Suitable extinguishers shall be provided and maintained ready for instant use.

A fire watch person shall be provided during, and for, 2 hours past the completion of the welding project.

- A cutting/welding permit will be issued on all welding or cutting outside of the designated welding area.
- If fire hazards cannot be taken to a safe place or guards cannot be used to confine heat, sparks, slag and protect the immovable fire hazards, the welding/cutting shall not be performed.
- Operators of equipment should report any equipment defect or safety hazards and discontinue use of equipment until its safety has been assured. Repairs shall be made only by qualified personnel.

WELDING AND HOT WORK FIRE PREVENTION MEASURES

A designated welding area should be established to meet the following requirements:

- Floors swept and clean of combustibles within 35 ft. of work area.
- Flammable and combustible liquids and material will be kept 35 ft. from work area.
- Adequate ventilation providing 20 air changes per hour, such as a suction hood system should be provided to the work area.
- At least one 10 lb. dry chemical fire extinguisher should be within access of the 35 ft. of work area.
- Protective dividers such as welding curtains or non-combustible walls will be provided to contain sparks and slag to the combustible free area.
- Requirements for welding conducted outside the designated welding area.
- Portable welding curtains or shields must be used to protect other workers in the welding area.
- A hot works permit must be completed and complied with prior to welding operation.
- Precautions that are to be taken shall be in the form of a written permit. Before welding/cutting is permitted the area shall be inspected and a written permit shall be used to authorize welding and cutting operations.
- Respiratory protection is mandatory unless an adequate monitored air flow away from the welder and others present can be established and maintained.
- Plastic materials be covered with welding tarps during welding procedures
- Fire Watch must be provided for all hot work operations.

ELECTRIC WELDING

- Ensure fire extinguisher is charged and available.
- Ensure electrical cord, electrode holder and cables are free from defects (no cable splices are allowed within 10 feet of the electrode holder.
- Ensure PPE (welding hood, gloves, rubber boots/soled shoes, aprons) are available and have no defects.
- Ensure the welding unit is properly grounded.
- All defective equipment must be repaired or replaced before use.

Remove Flammables and Combustibles

- No welding is permitted on or near containers of flammable material, combustible material or unprotected flammable structures.
- Place welding screen or suitable barricade around work area to provide a fire safety zone and prevent injuries to passersby (Do not block emergency exits or restrict ventilation)
- Ensure Adequate Ventilation and Lighting
- Execute Hot Work Permit procedures.

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Set Voltage Regulator no higher than the following for:

- Manual Alternating Current Welders - 80 volts
- Automatic Alternating Current Welders - 100 volts
- Manual or automatic Direct Current Welders -100 volts

Uncoil and Spread Out Welding Cable

To avoid overheating, ensure proper contact of work leads and connections, remove any metal fragments from magnetic work clamps (to avoid electric shock do not wrap welding cables around a body part and avoid welding in wet conditions)

Fire watch for one hour after welding and until all welds have cooled.

Perform final fire watch and terminate permit.

GAS WELDING

- Ensure tanks have gas and fittings are tight.
- Ensure fire extinguisher is charged and available.
- Ensure hoses have no defects.
- Ensure PPE (welding hood, gloves, rubber boots/soled shoes, aprons) are available and have no defects.
- All defective equipment must be repaired or replace before use.

Remove Flammables and Combustibles

- No welding is permitted on or near containers of flammable material, combustible material or unprotected flammable structures.
- Place welding screen or suitable barricade around work area to provide a fire safety zone and prevent injuries to passersby (Do not block emergency exits or restrict ventilation).
- Any welding, cutting or burning of lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints not listed here shall have proper ventilation or respiratory protection.

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