



**PROTEK
SECURITY, INC.**

Safety Program

S A F E T Y P R O G R A M

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1.0 INTRODUCTION:

This manual sets forth the requirements of the Industrial Safety and Fire Protection program at the Protek Security, Inc. Corporate Headquarters. The manual will be reviewed and updated by Protek Security, Inc. when appropriate.

The material and instructions contained in this manual have been carefully reviewed for accuracy and presumed to be correct and reliable. However, Protek Security Inc. assumes no responsibility for inaccuracies and reserves the right to modify and revise this manual without notice. Protek Security, Inc. Provides this manual "as is" without warranty of any kind, either expressed or implied, including but not limited to the implied warranties of use or fitness for any purpose.

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To achieve the desired level of performance and to meet any and all applicable requirements of federal and State of Utah codes, each manager shall assure that all operations which he/she is responsible for are carried out in accordance with the criteria in this manual.

1.1 CORPORATE SAFETY POLICY:

The Protek Security, Inc. policy is to provide its employees with a safe working environment. All job tasks can and shall be performed in a safe and efficient manner. It is the responsibility of each manager/supervisor to provide employees with a safe work environment including maintaining the equipment in safe working condition. Each employee shall perform his or her work in a safe manner.

It should be noted that guidelines contained herein do not eliminate the need to apply common sense to a given situation or, by omission of a specific point, imply consent for an improper action or activity.

1.1.2 RESPONSIBILITY:

- A. Failure to comply with established safety rules and procedures may result in disciplinary action, including but not limited to termination of employment.
- B. Where practical, management shall eliminate identified hazards in equipment and operation; when this is not practical, employees shall be warned of any identified hazards and protected by adequate safeguards to the extent practicable.

- C. Each manager/supervisor shall abide by and shall assure that their employees abide by all applicable federal, state, and local laws and corporate rules and guidelines as defined in the safety manual.
- D. Each manager/supervisor is responsible for the prompt correction of identified unsafe practices and or conditions once identified.
- E. Each manager/supervisor is responsible for assuring that employees are trained to perform the job task for which they are assigned.
- F. Each manager/supervisor is responsible for determining and providing their employees with the required personal protective equipment available from the company, and assuring that provided equipment is properly used.
- G. Each manager/supervisor shall promote the safety policy by regularly attending and requiring safety meetings.
- H. Each employee is responsible for performing work in a safe manner and exercising maximum care, good judgment and common sense in preventing accidents.
- I. Each employee is responsible for reporting to his/her supervisor unsafe conditions and or equipment so that corrective action can be taken. Personal injuries are to be reported immediately to supervision, reference [1.3.8].

1. 2 SAFETY COMMITTEE CHARTER AND ORGANIZATION:

1.2.1 Senior Management Safety Committee:

The Senior Management Safety Committee [SMSC] has been established to formulate corporate policy pertaining to personnel health and safety and property conservation; to monitor safety program performance; to ensure compliance with established policy.

The goal of the SMSC committee is to provide a safe work environment by fostering safe work attitudes and practices which minimize hazards to workers.

The SMSC shall be comprised of all Vice Presidents, Directors, Managers, and shall be chaired by a corporate officer or appointee in his/her absence. The chairperson shall assign a recording secretary. The committee shall meet as needed.

The SMSC committee shall review all new proposed revisions to policies and manuals pertaining to personnel safety and health; accident/incident reports.

1.2.2 Specific Responsibilities of the Safety Committee:

A Safety and Health Committee [SHC] consisting of management and employee representatives, shall meet on a monthly basis to review safety and health inspection reports and to advise/assist in correction of identified unsafe conditions.

1.2.3 The Safety and Health Committee is responsible for:

- A. Assisting in developing, promoting and administering a coordinated health, safety, fire protection program.
- B. Advising and assisting management in fulfilling their responsibilities for personnel and operations.
- C. Conducting evaluations and inspections to assure compliance with state and federal regulations pertaining to safety, fire protection and this manual.
- D. Stopping any observed work activity that is life-threatening or could cause serious injury to either the persons performing the work or others. The supervisor of the worker{s} shall be immediately notified.
- E. Coordinating information from safety meetings and reviews to provide uniform dissemination and support corrective actions and "good practices".

1. 3 SAFETY PROGRAM IMPLEMENTATION:

1.3.1 Safety and Fire Protection Evaluations:

- A. The Safety And Health Committee [SHC] is responsible for conducting spot evaluations of all facilities and assisting management in complying with the requirements of the industrial safety program.
- B. A report of the findings will be sent to the responsible manager/supervisor with recommendations for corrective action if needed. The responsible manager/supervisor shall respond to the Chairperson of the Safety And Health Committee [SHC] outlining planned corrective action to be taken.

C. Follow-up evaluations may be performed by the Safety And Health Committee [SHC] to verify that areas of noncompliance are corrected.

1.3.2 Management Conducted Evaluations:

Directors and Managers shall conduct internal safety and fire prevention evaluations of their facilities. Management conducted safety reviews provide a scheduled opportunity for management to:

1. Investigate all areas of operation to detect procedures, practices, and equipment which may be hazardous.
2. Assure that hazards that can cause or may cause accidents are identified and eliminated or controlled to the best of their ability.
3. Promptly correct any identified practice and or condition that is in violation of established safety procedures.
4. Follow up periodically to ensure that hazard controls are maintained, and that no new hazards have been introduced.
5. Communicate with their personnel the importance of a safe and healthful working environment.
6. Supervisors shall constantly review their work area and take prompt action to correct deficient health, safety or fire protection findings.
7. Managers shall conduct an audit/review of each supervisor's work area quarterly. Review shall include working conditions, practices, and inspection of facilities and equipment.
8. Directors/Vice-Presidents shall conduct an audit/review of each managers area of operation

1.3.3 Safety Meetings

The primary purpose of safety meetings is to review with employees the safety requirements of their work. Safety meetings also provide employees with the opportunity to identify unsafe conditions or actions in the work place, and to receive guidance for corrective action to be taken.

A. Supervisors shall assure that safety meetings are conducted for employees assigned to their work group on a monthly basis. Minutes of the safety meeting as well as attendance shall be recorded on the form provided for this purpose [Exhibit 1.5.1].

B. Topics which are appropriate for safety meetings include accident reports, "near miss" accidents, use of protective equipment, emergency procedures, fire prevention etc. It is intended that the safety meetings be educational and informative.

C. Off-the-job safety issues also are of great importance and can be presented in the safety meetings. Making the employees aware of the hazards associated with such items as driving, boating, hunting, poisons found in the home etc. provide a major contribution to the Protek Security, Inc. safety program.

1.3.4 Employee Orientation:

All new employees shall receive a general safety and fire protection orientation. In addition upon reporting to work assignments, supervisors shall provide all new employees with orientation specific to the health, safety and fire protection requirements associated with their work assignments, including the following items as a minimum.

- A. Specific work procedures and practices; the hazards associated with each and the means to avoiding them.
- B. Proper use and care of personal protective equipment.
- C. Applicable emergency procedures including evacuation signals, emergency notification and emergency exits.
- D. Proper reporting of unsafe conditions.
- E. Proper reporting of job related injuries.

1.3.5 Occupational Health:

An occupational health program has been established to protect employees against health hazards, assure first-aid and /or medical care to the occupationally injured employee and to encourage personal health maintenance. Each area manager is to be responsible for maintaining adequate first-aid supplies.

1.3.6 Fire Protection:

Branch Managers are charged with the responsibility for implementation within branch facilities, fire protection programs as directed by state and federal regulations.

1.3.7 Accident and Injury Investigation:

- A. Accident and injury investigations shall be performed as required by the Senior Management Safety Committee [SMSC].
- B. Any accident that resulted in or might have resulted in serious bodily injury will be evaluated for investigation.
- C. Depth of the investigation will be determined by the Chairperson but at a minimum will include review of the written evaluation of the accident.

1.3.8 How And When To Report Injuries:

- A. In the event an injury is sustained, the employee is directed to contact the office as soon as possible after first aid has been given.
- B. The employee shall be prepared to give an oral statement as to the nature of the injury [exact body parts], time and date of injury, location where injury occurred, witness to event leading to injury etc.
- C. After this information has been received from the employee, the employee will be required to review the "Preliminary Accident Report" and sign the form.

1.3.8 Safety Instructions:

Management shall provide the direct communication required to assure that employees receive and understand instructions pertinent to their personal welfare and the safety of the Protek Security, Inc. facilities.

1.3.9 Safety Training:

- A. Management shall provide and assure that each employee receives adequate training to ensure safe conduct of his/her job task.
- B. Managers shall provide a continuing safety instruction program for supervisors to assist them in the development of their skills in supervising for safety.

1. 4 REFERENCES

1.4.1 Utah State Safety Codes:

A. 34A-6-101 "Utah Occupational Safety and Health Act"

1. 5 EXHIBITS

1.5.1 Safety Meeting Roster & Minutes:

1.5.2 Preliminary Accident Report:

GENERAL WORK PLACE SAFETY

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2.0 INTRODUCTION:

This chapter provides general safety guidelines which are applicable in all work areas.

2.1 RESPONSIBILITIES:

2.1.1 MANAGERS / SUPERVISORS:

- A. Shall assure that all employees under their direct supervision abide by the corporate rules and conditions as defined in this chapter.
- B. Assure that safety evaluations are conducted as required in Chapter 1, Section 1.3.2 Management Conducted Evaluations of this manual.
- C. Assure that recognizable hazards which can cause an accident are removed or controlled.

2.2 ACCIDENT PREVENTION:

2.2.1 File Cabinets:

- A. When using file cabinets, the bottom two drawers are to be filled first and with the heaviest material.
- B. Open only one cabinet draw at a time.
- C. Cabinets shall not be left open when not in use.

2.2.2 Exit Ways:

- A. Exits, in the form of corridors or passageways, are provided in each facility to assure that personnel can exit in case of an emergency. For Protek Security, Inc. facilities, corridors or passageways are defined as follows:

Corridors: A hallway protected by fire rated construction.

Passageways: A designated path of travel not less than forty-four [44] inches of clear width. Unlike a corridor, a passageway is not protected by fire rated construction.

- B. All corridors are to be kept clear of any and all obstructions.
- C. Passageways are to be a minimum of forty-four [44] inches in width and are to be kept clear of an and all obstructions

2.2.3 General Work Place Safety Rules:

- A. Furniture is to be inspected periodically for sharp projections, splinters, loose screws or nuts.
- B. Care should be given when loading operating stapling devices.
- C. Desk drawers, file cabinet drawers, etc. are to be opened / closed by utilizing the handles.
- D. Close all drawers in file cabinets and desks when not in use.
- E. Uncapped pens, pencils and other pointed objects should not be stored in desks and cabinets with the points exposed.
- F. Good housekeeping is essential throughout the building.
- G. Office chairs are not to be used in the place of a step stool.
- H. Exercise caution when walking around blind corners.
- I. Paper cutters are to be equipped with guards, and are to be stored with the handles in the down and locked position.
- J. Materials stored on top of file cabinets, shelves etc. shall be arranged so they are stable, will not tip, fall or otherwise become dislodged.
- K. No items such as clocks, plants, signs, etc. may be hung from suspended ceiling tile supports. The supports are designed to support the weight of the tile only.

2.2.4 Holiday Decoration:

- A. Christmas trees must be made of artificial and fire retardant material.
- B. The use of electrical lights as well as candles, is strictly prohibited
- C. All decorations must be made of fire retardant material, and used sparingly

2.2.5 Indoor Air Quality:

Perfumes, aerosols, incense and other substances often used by individuals at home can represent an air contaminant when introduced in a climate controlled office building. Some employees are more sensitive to such contaminants in the air than others. All employees are expected to be aware of the potential harm such substances can cause to sensitive individuals and must refrain from such use when a problem is identified.

- A. Spraying herbicides or pesticides indoors is strictly prohibited for everyone except authorized corporate staff and contractors.
- B. Spraying of aerosols, such as air fresheners, deodorants and hair sprays, is strictly prohibited except in restrooms that are adequately ventilated.
- C. Use of perfumes and other personal hygiene items with strong scents should be used in moderation and must be curtailed if they cause an allergic reaction in others.
- D. Burning of incense and use of aromatics is strictly prohibited.

2.3 WORK PLACE SAFETY INSPECTIONS:

Work place safety inspections must be performed by the employee on a daily basis, he/she is to be observant as to any potential hazard and to bring this hazard to the attention of the supervisor.

2.4 ACCIDENT REPORTING:

It is required that you immediately report any on the job injury or accident to your supervisor and to the personnel manager. This is necessary to assure your proper Workman's Compensation protection should it become necessary.

The method for reporting is twofold. First a phone call to your supervisor as soon as possible after the injury is mandatory. In addition, the attached Accident Report Form (Appendix D) must be completed and turned into the personnel manager within 5 days of the injury occurrence. Failure to report an injury properly and in a timely manner may jeopardize eligibility for assistance through Workman's Compensation for the injury.

2.5 EXHIBIT:

PERSONAL PROTECTIVE EQUIPMENT

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3.0 INTRODUCTION:

The information contained herein establishes the minimum clothing and personal protective equipment requirements for Protek Security, Inc. employees when exposed to occupational hazards.

3.1 GENERAL DRESS CODE:

A. Depending on the job assignment and the nature of the work involved, certain types of clothing and adornments should not be worn. These include but are not limited to loose sleeves or cuffs, and excessively long or loose trouser legs.

B. Necklaces constructed of non-breakaway materials {heavy metal type, rope/cord} should not be worn around rotating equipment.

C. Wrist watches, rings, or other jewelry should not be worn while working with or around machinery/equipment with moving parts in which such objects may be caught, or around electrically energized equipment.

D. Personnel shall work with their upper and lower body covered as applicable to minimize exposure. Tank tops, muscle shirts, and cut-off T-shirts are not acceptable.

3.2 PROCUREMENT AND USE OF PERSONAL PROTECTIVE EQUIPMENT:

3.2.1 Responsibilities:

A. The Senior Management Safety Committee [SMSC] shall approve the procurement and use of all personal protective equipment used by Protek Security, Inc. employees.

B. Supervisors shall ensure that each employee using personal protective equipment is trained in the proper use, limitations, care and maintenance of the equipment.

C. Where personal protective equipment/devices are necessary, employees shall be required to wear such devices.

D. Personal protective equipment will be made available to employees through stores or the employee's supervisor.

3.3 EYE PROTECTION:

Employees are encouraged to be especially vigilant in protection of eyes.

3.3.1 Requirements:

A. Protek Security, Inc. employees shall use eye protection in areas where there is potential injury to the eyes from physical, chemical, or radiant energy hazards.

B. All persons in areas posted for eye protection shall wear the protective equipment required whether working, observing, or supervising.

C. Employees with effective vision in only one eye are encouraged to employ the use of eye protection at all times while at work.

D. Contact lenses are not proper eye protection equipment. Mono lens coverall goggles shall be worn when contact lenses are worn, while working in areas requiring eye protection.

E. Glasses darker than shade 2.0 {e.g. sun glasses} shall not be worn indoors.

3.3.2 Safety Glasses:

A. Only safety glasses meeting the requirements of ANSI standard Z87.1 "Eye and Face Protection" are approved for use at Protek Security, Inc. Ordinary glasses are not recognized as eye protection.

B. Dark glasses, {shade 2.0 and darker}; including prescription and non-prescription, shall not be worn indoors unless required for protection from optical radiation {welding, etc.}.

C. The use of personal photochromic {photo gray} lenses is not prohibited, however, since the fading process is not instantaneous, photochromic lenses should be used with care.

3.3.3 Goggles:

A. The Standard type of safety goggles for use by Protek Security, Inc. employees is the "Mono lens coverall" goggle.

B. Mono lens coverall goggles, for eye protection in lieu of side shield safety glasses, for dust and light work protection, and may be worn over personal prescription glasses.

3.4 HEAD PROTECTION:

3.4.1 Requirements:

A. Wherever hazards exist from overhead objects or falling materials, head protection is required and will be provided in the form of approved hard hats.

B. Only hard hats supplied by Protek Security, Inc. shall be worn.

3.4.2 Care Of Hard Hats:

A. Hard hats shall be kept clean and serviceable.

B. Hard hats shall be inspected periodically by the user for cracks or penetrations, serviceable headbands, suspension system in good condition, and cleaned using warm sudsy water.

C. Hard hats shall not be structurally modified, painted, or otherwise defaced wherein the structural integrity or dielectric protection qualities are affected.

3.5 HEARING PROTECTION:

3.5.1 Permissible Noise Limits:

A. Continuous noise exposure shall not exceed an eight hour time weighted average of 90 decibels {dB}, measured on the A Scale of a standard sound-level meter at slow response. The following table shows permissible, continuous noise levels.

duration per day [hours]	sound level [dB]
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
3/4	107
1/2	110
1/4 or less	115

B. The following information is given for typical Industrial noises.

sounds	intensities [dB]
average office and conversation	40-60
noisy office, average street	60-80
lathe, loud street, car	80-95
air drill, riveter, cut-off saw, punch press, screw machine	90-110
planer, router, circular saw	110-115
drop hammer, chipping hammer	110-125

3.5.2 Noise Control Methods:

A. Reduction of noise exposures to permissible levels shall be accomplished through administrative controls where applicable, and with the employee's cooperation as to sound generation.

B. Personal protective devices shall be used to achieve compliance with WISHA requirements.

C. Adequate hearing protection consists of ANSI approved ear muffs, foam ear inserts, neoprene inserts, or other approved hearing protection. Cotton balls, wax, paper, and similar items are not approved for hearing protection.

3.6 FOOT PROTECTION:

3.6.1 Standards:

- A. Foot wear suitable for the job task[s] being performed shall be worn by employees.
- B. No bare stocking feet are permitted.
- C. The wearing of sandals, open toed, high heels athletic style shoes, or similar footwear is prohibited in areas where there is danger of injury to the feet from cutting, penetration, chemicals, burning, scalding or similar hazards
- D. Acceptable minimum footwear for these areas consist of substantial shoes or boots constructed of leather [or equivalent material] uppers and soles.

3.7 FALL PROTECTION:

3.7.1 Requirements:

A. Fall protection program as established by Protek Security, Inc. will be strictly adhered to.

The fall protection program shall:

1. Indicate identifiable fall hazards in the work area.
2. Describe the method of fall restraint or fall arrest to be utilized.
3. Describe the correct method of assembly, maintenance, inspection, of the fall protection to be used.
4. Describe the prompt, safe removal of injured workers.

The fall protection program shall be posted on the job site with the supervisor.

B. Protek Security, Inc. employees shall use fall restraint or fall arrest systems when on a ladder with a working height of twenty five feet or greater and/or where the potential of falling from a location 10 feet or more in height is evident.

C. All safety belts and/or harness shall conform to ANSI:

Class I - body belt

Class II - chest harness

Class III - full body harness

Class IV - suspension / position harness

3.7.2 Safety belts, Lanyards, Lifelines:

A. Safety belts, lifelines, and lanyards shall only be used for employee protection

B. All safety belt and lanyard hardware assemblies shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.

C. Any safety belt, lanyard, lifeline subjected to in-service loading [loading due to slip or fall] shall be removed from service and inspected by a competent person and determined to be safe prior to reissue.

D. All components of fall restraint systems shall be inspected prior to each use for wear, damage, and other deterioration and any defective components shall be removed from service if their function or strength has been adversely affected.

E. Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.

3.7.3 Ladders:

A. Any and all ladders are to be inspected by the employee before use for damaged or loose rungs.

B. Any ladder found to be in need of repair is not to be used and brought to the attention of the supervisor immediately.

C. Any ladder must be placed securely before any attempt is made to mount ladder.

- D. Employees are to be cognizant of the correct "length to distance from wall" ratio. For every 9' of height, the base is to be placed 3' away from the wall.
- E. Employees are to insure the ladder reaches at least 3' higher than the highest level at which to stand.
- F. The employee is to never stand above the third highest rung.
- G. The employee is to always face the ladder when mounting or dismounting.
- H. Before mounting ladder, empty pockets of all pointed objects.
- I. The transportation of ladders shall be made in a workman like manner and fastened securely on top or in vehicles.
- J. Ladders are to be used for the express purpose for which they are designed.
- K. The area around the top and bottom of the ladder shall be kept clear.
- L. The employee shall not attempt to ascend or descend ladders while carrying tools or materials that might interfere with the free use of both hands.
- M. When the employee is working from a ladder, the ladder is to be secured at both the top and the bottom.
- N. Ladders shall not be moved, shifted, or extended while occupied
- O. The top or top step of a step ladder is not to be used as a step.

3.7.4 Extensible Platforms:

Extensible work platforms (commonly referred to as a scissor lift) as well as articulating boom platforms and telescopic derricks with personnel platform attachments, shall be referred to as "Aerial Lifts".

- A. Lift controls shall be tested each day prior to use, to determine that such controls are in safe working condition.
- B. The Aerial lift shall be inspected by the operator and be determined to be in good working order and safely positioned, prior to the operation and use of the lift by any employee.

C. Only persons familiar with the correct operating procedures shall operate an aerial lift.

Before using the aerial lift, the operator shall:

1. Read and understand the posted manufacturer's operating instructions and safety rules.
2. Read and understand all decals, warnings, and instructions on the aerial lift.
3. If any questions arise concerning the correct operation of the lift, the operator will stop and seek guidance from the person or persons who are providing the aerial lift.

D. Belting off to adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.

E. Employees shall always stand firmly on the floor of the bucket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

F. A body belt shall be worn and a lanyard attached to the boom or basket, when working from a "Boom Type aerial lift. Or when the personnel can't maintain a firm footing while working from a "scissor" type lift and conditions or common sense dictate the need for a body belt.

G. The boom and basket load limits specified by the manufacture shall not be exceeded.

H. The breaks shall be set and outriggers, when used shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline.

I. An aerial lift may not be moved when the platform is elevated to a working position with men in the basket, except for equipment which is specifically designed for this type of operation.

3.7.5 Forklift Elevated Work Platforms:

When a forklift is used for elevating workers, a platform shall be specifically built for that purpose and shall comply with the following requirements.

- A. The platform shall be securely attached to the forks and shall have standard guardrails and toe boards on all open sides.
- B. The hydraulic system of the forklift shall be so designed, that the lift mechanism will not drop faster than one hundred thirty-five feet per minute, in the event of a failure in any part of the system. Forks used for elevating work platforms shall be identified that they are so designed.
- C. A safety strap shall be installed or the control lever shall be locked to prevent the boom from tilting.
- D. An operator shall be at the controls of the forklift equipment while persons are on the platform.
- E. The operator shall be in the normal operating position, while raising or lowering the platform.
- F. The vehicle shall not travel from point to point while workers are on the platform, except that inching or maneuvering at very slow speeds is permissible.
- G. The area between the workers on the platform and the mast shall be adequately guarded, to prevent contact with chains or other shear points.
- H. All platforms shall be visually inspected daily or before each use by the person in charge of the work being performed and shall be tested as frequently as is necessary to maintain minimum safety factors.

3 . 8 R E F E R E N C E S :

3.8.1 Utah State Safety Code:

- A. 34A-6-101 "Utah Occupational Safety and Health Act"

3.8.2 American National Standards Institute:

- A. Standard Z41.1 "Foot Protection"
- B. Z87.1 "Eye and Face Protection"
- C. Z88.2 "Respiratory Protection"
- D. Z89.1 "Industrial Head Protection"

3.9 EXHIBIT:

3.9.1 Fall Protection Program:

ELECTRICAL SAFETY

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4.0 INTRODUCTION

The information contained herein provides requirements concerning safe practices for those employees who work with or near electrical equipment.

4.1 APPLICATION AND REQUIREMENTS

4.1.1 General Precautions:

A. Think! each time work is performed on any electrical device. The prudent employee will always be mentally alert to the existing dangers.

B. Testing or repairing electrical equipment by overriding a safety switch is not permissible except with specific approval from the supervisor in charge of the project .

C. It is required that the main disconnects to all equipment being worked on be properly removed from service.

D. Prior to any and all work on any circuit, it shall be tested to verify that it is de-energized, and to determine the voltage.

E. Temporary wiring [including extension cords] shall be installed in manner that will not be a hazard to personnel and must meet the following requirements:

1. cables and extension cords passing through work areas, shall be covered or elevated to protect them from damage.

2. extension cords shall not be secured by staples, hung from nails, or suspended by wire.

F. Examine extension cords and drop cords frequently for worn or damaged insulation, and evidence of deterioration at plugs and connections. Use only Underwriters Laboratories, Inc. listed cords.

G. Use only non-conductive ladders for electrical work.

H. Replace covers to all electrical devices when maintenance work has been completed.

I. Pipes, conduits, and other long metallic pieces should be carried in a horizontal plane to avoid the chance of coming in contact with electrically charged lines.

J. Consistent with design, sufficient air space shall be provided around electrical equipment.

4.1.2 Working On or Adjacent to Energized Equipment:

This section applies to power circuits and control circuits of low voltage.

A. Work shall not be performed on energized electrical equipment unless there is proper authorization or the work is performed in accordance with established procedures.

B. Personnel should go through a "dry run" before commencing work.

4.1.3 Extension Cords:

A. Only three wire extension cords shall be permitted. Small gauge [18ga or less] or two wire cords are not permitted for use.

B. Cords shall not be placed in such a manner that they present a tripping hazard. Whenever possible, cords shall not be placed across corridors or passageways. Should it become necessary to do so, the extension cord shall be secured to the floor with tape or other device intended for that purpose.

C. Where practical, electrical extension cords shall not be used as a permanent extension of the building's fixed electrical system.

4.2 ELECTRICAL APPLIANCES

Electrical appliances serve many functions, and when used properly do not create fire and safety hazards. It is important for all appliance users to be familiar with the basic requirements for each appliance.

4.2.1 Personal Convenience Appliances:

A. The following requirements apply to all personal convenience appliances.

1. All electrical appliances shall be U.L. listed.
2. Appliances shall be in good repair.
3. Modifications to any appliance without the direction from the manufacture will result in the loss of the U.L. listing.
4. The use of any appliance shall be in compliance with the manufacturers recommendation and with direct approval of Protek Security Inc.

5. Appliances shall not be located in high traffic locations, such as main aisles or corridors.
6. All appliances and surrounding surfaces shall be kept clean.
7. All coffee pots shall be turned off at the end of the work shift.

4.2.2 Office Equipment:

A. Office equipment including typewriters, calculators, computers, and desk top printers shall meet the following requirements:

1. Office equipment shall be placed on structurally sound tables, desks, or other office furniture specifically designed for that purpose.
2. Electrical cords shall be protected to prevent a tripping hazard.
3. Computerized equipment can be plugged into a surge protector, total amperage of the computer and equipment shall not exceed the rating of the protector.

4.3 NATURE OF ELECTRICAL INJURY

Death by electrical shock is usually caused by one of two direct effects, ventricular fibrillation or respiratory center paralysis. Most injuries caused by electrical shock are burns, but the shock may also cause other accidents, such as falls.

4.4 ELECTRICAL SHOCK

4.4.1 Current:

The intensity of electrical shock is a function of current, voltage, resistance, and frequency. The scale of effects on humans in relation to current, expressed in milliamperes, is shown below.

<u>effect on humans</u>	<u>milliamperes</u>
No sensation	up to 1
Sensation of shock without pain, person can let go	1 - 8
Muscular control more difficult but can let go at will	8 - 15
Painful shock and loss of muscular control, person can not let go	15 - 20
Painful shock and loss of muscular contraction, breathing is difficult	20 - 50
Death possible from ventricular fibrillation	50 - 100
Death certain from ventricular fibrillation	100 - 200
In the higher range of current values, if the electrical path involves the nerves controlling the respiratory system, asphyxia is a more likely cause of death.	200 and up

4.4.2 Voltage and Resistance:

A. Electrical shock is related to voltage as current is related to voltage. Current is voltage divided by resistance.

B. Sufficient current to cause shock is favored when voltage is high or the resistance is low.

C. Dry skin has resistance of 100,000 to 600,000 ohms. Wet skin or perspiring skin has a resistance of approximately 1000 ohms.

D. The internal body has a resistance 400 - 600 ohms; the ear-to-ear resistance is about 100 ohms.

4.5 ALTERNATING CURRENT

110 volts AC or less can be extremely dangerous if the skin is moist. Experience has shown that the most dangerous shocks are those from circuits of 400 V, the level most likely to cause ventricular fibrillation. At higher voltages, muscular contractions tend to prevent ventricular fibrillation by stopping the heart action during the period of shock. The violence of the muscular contraction tends to throw the victim free.

4.6 DIRECT CURRENT

Humans can tolerate more current from a DC source than from an AC source before shock is felt. However, the sensation of heat is experienced more readily from DC current.

4.7 HIGH FREQUENCY

The severity of shock stimulation from high frequency currents decreases as the frequency increases. In place of shock, the sensation of heat predominates. Severe burns are a real hazard with high frequency and radio frequency equipment.

4.8 RESCUE AND FIRST AID FOR SHOCK VICTIMS

The following information is an overview of first aid and is not to replace professional first aid training.

4.8.1 Rescue:

The most important idea behind helping electrical shock victims is not to become a victim yourself. If possible, first shut off the source of the shock, but don't waste time looking for a switch. Use a length of dry wood, rope, blanket, etc., to pry and or pull the victim away from the shock source.

4.8.2. First Aid and Medical Attention:

- A. If the victim has stopped breathing and his heart has stopped beating, start cardiopulmonary resuscitation at once.
- B. If a victim is conscious and has visible burns, cover the area with a sterile, dry dressing and get medical help immediately.
- C. All electrical shock victims shall receive medical attention to determine if there have been any internal injuries.

4.9 STATIC ELECTRICITY

- A. Static electricity {electricity at rest} can be very hazardous and may be encountered inadvertently, as sometimes experienced when sliding across a car seat, or walking on carpeting.
- B. High charges can be built up before discharge occurs. This is especially true in dry climates. Voltages build up to certain limiting values and jump across air gaps, causing sparks.
- C. Hazards from static electricity are [1] sparks, which can damage electrical components, ignite combustible vapors, gases, or dust, and [2] minor shock to personnel, causing a startled or involuntary reaction which may result in an injury or accident.

4.10 REFERENCES

4.10.1 Utah State Safety Codes:

- A. 34A-6-101 "Utah Occupational Safety and Health Act"

4.10.2 National Fire Protection Association:

- A. NFPA 70

4.10.3 National Electrical Code:

4.10.4 Uniform Fire Code:

- A. UFC 9.109
- B. 79.108

TOOLS AND EQUIPMENT

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5.0 INTRODUCTION

This chapter provides the requirements governing safe operation and maintenance of tools and equipment. The tools in this chapter are generally of the "Hand Tool" or "Shop Tool" category.

5.1 HAND TOOLS

5.1.1 General:

A. Familiarity and simplicity tend to obscure the fact that the hand tool can be dangerous. Four basic rules are to be followed when utilizing hand tools.

1. Select the appropriate tool for the job.
2. Maintain tools in good condition. Needed repairs should be made as soon as possible.
3. Use a hand tool only for the tasks the tool was designed for.
4. Store tools in a safe manner and in an area that does not expose them to damage or deterioration.

5.1.2 Inspection:

Tools shall be inspected by the user prior to each use.

5.1.3 Specific Safety Practices:

A. Hammers:

1. Select the proper size and type for the job.
2. Be sure the handle is not cracked or loose.
3. Grip a hammer near the end of the handle not near the head, with clean dry hands.

4. Hammers with chipped faces are dangerous and shall be removed from service.

B. Screwdrivers:

1. The blade of a screwdriver must fit the slot of the screw correctly.
2. When using a screwdriver on small work, the work should not be held in your hand.
3. Be sure the handles have no sharp burrs and are not split.
4. Use screwdrivers with insulated handles for electrical work.
5. Screwdrivers shall only be used for their intended purpose, to insert screws and remove screws.

C. Files:

1. All files should be equipped with a handle.
2. Select the correct shape, size, and cut of file for the job.
3. A file should be used for its intended purpose, not as a hammer, pry bar or lever.

D. Wrenches:

1. Use only wrenches which fit the nut or bolt head properly.
2. Keep yourself well braced and be careful not to lose your balance and if possible, always pull on a wrench.
3. A sudden tap with the palm of your hand on the wrench handle is better than steady pulling.
4. Wrenches shall be kept free of oil and grease.

E. Miscellaneous Bench Tools:

1. Sharp pointed tools such as scribes, dividers, and screwdrivers shall not be carried in pockets.
2. All field technicians shall be required to wear a tool pouch while performing work.
3. The prudent employee will perform an inspection of his/her tools on a daily basis, and will replace or repair any that are damaged.

5.2 PORTABLE ELECTRIC POWERED TOOLS

5.2.1 General:

- A. All portable electric powered tools shall have controls such that when the operator releases the control, power to the unit will automatically shut off.
- B. Store electrically powered tools in a dry secured area.
- C. Protect cords from heat, chemicals, oil, and physical damage.
- D. Keep tools cleaned, oiled, and in good repair. Be alert for wear, shorting, poor connections, and defects.
- E. Keep electrical apparatus free from dust, lint, dirt, and moisture.
- G. Avoid working with any electrical equipment in wet places.
- H. Disconnect extension cords by pulling on the plug, not on the cord itself.
- I. Whenever possible, connect electrical equipment cords directly to wall outlets. Avoid creating a tripping hazard or exposing cords to heavy traffic
- J. Be sure electrical equipment is adequately grounded. Good maintenance is essential.
- K. All portable electric hand tools shall be equipped with a three wire cord having the ground wire permanently affixed to the tool frame and continuously through the attachment plug.

L. Tool and cord attachment plugs shall be of the dead front construction that prevents accidental contact with live parts.

5.2.2 Electrical Grounding of Operational Equipment:

A. Extension cords used with portable electric tools shall be of the three wire type.

B. Ground plugs shall not be removed, bent, or otherwise modified.

5.3 POWDER ACTUATED FASTENING TOOLS

5.3.1 Purpose:

As defined by the company, the purpose of this document is to provide reasonable safety procedures for life, limb and property, by establishing requirements for operation, handling, service and storage of powder actuated fastening tools. It should be noted, that the guide lines contained herein do not eliminate the need to apply common sense to a given situation or, by omission of a specific point, imply consent for an improper action or activity.

5.3.2 Responsibility:

A. Supervisors shall ensure that each employee using a powder actuated fastening tool, is trained in the proper use, limitations, care and maintenance of the tool.

B. The employee is to be cognizant of his/her responsibility as to the safe operation of the powder actuated fastening tool. Safety for self as well as safety for others is paramount and cannot be over emphasized.

5.3.3 Designated Competent Person:

Protek Security Inc. will designate a qualified person, one familiar with the correct operation of the use, limitations, care and maintenance of powder actuated fastening tools.

5.3.4 Requirements:

- A. The powder actuated fastening tool shall be operated only by trained individuals
- B. The powder actuated fastening tool shall be maintained in such a way as to maintain safe operation.
- C. The tool, shall be of a type, that depends upon a least two separate operations by the operator to cause activation.
- D. The tool shall be of a type, which is designed to not work, other than against a work service.
- E. The tool shall be of a design, which permits inspection of all principle parts for foreign matter that may affect correct operation.

5.3.5 Power Load Identification:

- A. Cased power loads, shall be coded to identify power load levels, by case color and power load color as specified in table.
- B. No power load shall be used, if it will properly chamber in a powder actuated fastening tool, and will cause a fastener to have a test velocity in excess of the maximum test velocities specified for that particular powder actuated fastening tool.

5.3.6 Power Load Table:

POWER LOAD IDENTIFICATION

POWER LEVEL	CASE COLOR	LOAD COLOR	FT. PER SECOND
1	BRASS	GRAY	300
2	BRASS	BROWN	390
3	BRASS	GREEN	480
4	BRASS	YELLOW	570
5	BRASS	RED	660
6	BRASS	PURPLE	750
7	NICKEL	GRAY	840
8	NICKEL	BROWN	930
9	NICKEL	GREEN	1020
10	NICKEL	YELLOW	1110
11	NICKEL	RED	1200
12	NICKEL	PURPLE	1290

5.3.7 Fasteners:

Fasteners for use in powder actuated fastening tool shall be designed and manufactured to function compatibly with these tools and , when used in masonry, concrete, or steel, to effect properly the application for which they are intended for use.

5.3.8 Operation:

- A. Only tools meeting the requirements shall be used.
- B. Only qualified operators shall operate powder actuated fastening tools.
- C. Only the lowest velocity loads that will properly set the fastener, shall be used.
- D. Powder actuated fastening tools, shall be operated in strict accordance with the manufacturer's instructions.
- E. Eye or face protection or both shall be worn by operators, assistants, and adjacent personnel, when powder actuated fastening tools are in use.
- F. Hearing protection shall be used when operating powder actuated fastening tools in confined areas.

G. Each day the operator shall inspect the powder actuated fastening tool, for proper operation, using the manufacture's testing methods.

H. Any and all powder actuated fastening tools, found not to be operating as designed, shall be removed from service and tagged "DEFECTIVE" and shall not be used until properly repaired.

I. Only those types of fasteners and power loads recommended by the powder actuated fastening tool manufacture shall be used.

J. Before fastening into any questionable material, the operator shall determine its suitability by using a fastener as a center punch. If the fastener point does not easily penetrate, is not blunted, and does not fracture the material, initial test fastening shall then be made in accordance with the manufactures recommendations and or directions.

K. No powder actuated fastening tool shall be loaded, unless it is being prepared for immediate use. If the work is interrupted after loading, the tool shall be unloaded at once.

L. Powder actuated fastening tools shall not be loaded until just prior to the intended firing time. Neither loaded nor unloaded powder actuated fastening tools are to be pointed at any person; hands shall always be kept clear of the barrel end.

M. The powder actuated fastening tool, shall always be held perpendicular to the work surface, when fastening into any material.

N. In the event of a misfire, the operator shall hold the powder actuated fastening tool against the work surface for a minimum thirty seconds and then follow the explicit instructions of the manufacture.

O. Power loads of different power levels and types shall be kept in separate compartments or containers.

P. A sign, at least 8X10 in. using bold face type no less than 1in. in height, shall be posted in plain sight, when the powder actuated fastening tool is in use.

Q. A powder actuated fastening tool shall not be used in an explosive or flammable atmosphere.

R. A powder actuated fastening tool, shall never be left unattended in a place where it would be available to unauthorized persons.

S. The powder actuated fastening tool shall be serviced and inspected for worn or damaged parts at regular intervals as recommend by the manufacturer. A record of these inspections shall be kept with the tool.

T. The powder actuated fastening tool shall be kept in a locked container and stored in a safe place when not in use and shall be accessible only to authorized personnel.

5.3.9 Qualified Operator:

A qualified operator, is one, who is trained by an authorized instructor in the correct operation of a powder actuated fastening tool, and has demonstrated familiarity with this safety manual as well as operational procedures as described by the manufacture.

In addition, the operator shall also be capable of:

- A. Reading and understanding the operator's manual.
- B. Cleaning the tool correctly.
- C. Recognizing any worn or damaged parts.
- D. Recognizing the number-color code system used for power loads.
- E. Using the tool within the limits of its intended use.
- F. Recognizing situation where a powder actuated fastening tool is not applicable.

5.3.10 Qualified Instructor:

A qualified instructor, is one, who is trained and authorized by the tool manufacture in the correct operation of a powder actuated fastening tool, and has demonstrated familiarity with this safety manual as well as operational procedures as described by the manufacture.

In addition, the instructor shall also be capable of:

- A. Reading and understanding the operator's manual.
- B. Cleaning the tool correctly.
- C. Recognizing any worn or damaged parts.
- D. Recognizing the number-color code system used for power loads.
- E. Using the tool within the limits of its intended use.
- F. Recognizing situation where a powder actuated fastening tool is not applicable.
- G. Be able to instruct others in the correct operation of a powder actuated fastening tool

5.4 ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

5.4.1 Purpose:

Protek Security, Inc. policy is to provide and to assure its employees have a safe working environment. To insure this goal, the company has established the "Assured Equipment Grounding Conductor Test Program." This program is designed to reinforce with the employee, that power tools and power cords used have an effective, working grounding conductor for electrical safety and shock protection. Protek Security, Inc. will test and inspect all tool and power cords in accordance with the following procedures.

5.4.2 Requirements:

This written program and the testing record log, shall be available for inspection and copying by the director or any affected employee with notice.

5.4.3 Designated Competent Person:

To implement this program, Protek Security, Inc. will designate a qualified person, one familiar with the construction and the operation of the equipment and the hazards involved.

5.4.4 Use of Cords and Cord Connected Tools:

Cords and equipment previously described shall not be available or permitted for use until testing as described has occurred.

5.4.5 Testing Required:

- A. For all cord sets and receptacles not part of a building's or structure's permanent wiring.
- B. For all cord and plug connected equipment required to be grounded.

5.4.6 Testing Frequency:

- A. Before first time.
- B. Before equipment or cord is returned to service following repairs.
- C. Before equipment is used after any incident which can be reasonably suspected to have caused damage [i.e. a cord set being run over.]

5.4.7 Test Procedure:

- A. All equipment grounding conductors shall be tested for continuity, and shall be electrically continuous.
- B. Each receptacle and attachment cap or plug shall be tested for correct attachment of the grounding conductor. The grounding conductor shall be connected to its proper terminal.
- C. All test results shall be kept in a log in the workplace and available for inspection with proper and reasonable notice.

5.4.8 Testing Identification:

All cords and power tools shall have a color-coded taped band approximately one foot from the tool or male cap end showing the last time the cord was inspected.

The colors shall be:

First Quarter - Red Second Quarter - Yellow Third Quarter - Blue

Fourth Quarter - Brown.

5.4.9 Before Each Day's Use:

Visually inspect all cord sets, attachment cap, plug and receptacle of cord sets and any equipment connected by cord and plug for:

- A. External defects, deformed or missing blades of pins.
- B. External insulation damage.
- C. Indicators of possible internal damage.
- D. Equipment found damaged or defective shall not be used until repaired and tested.

5.5 REFERENCES

5.5.1 Utah State Safety Codes:

- A. 34A-6-101 "Utah Occupational Safety and Health Act"