

# **National Manual for Assets and Facilities Management Volume 10, Chapter 3**

## **Assets and Facilities Management A&FM General Safe Working Requirements Procedure**

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## Assets and Facilities Management A&FM General Safe Working Requirements Procedure

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## Assets and Facilities Management A&FM General Safe Working Requirements Procedure

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# Assets and Facilities Management A&FM General Safe Working Requirements Procedure

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# Assets and Facilities Management A&FM General Safe Working Requirements Procedure

## 1.0 PURPOSE

This procedure outlines the general Health, Safety and Environment HSE requirements for processes and tasks not otherwise addressed in other specific procedures.

## 2.0 SCOPE

The scope of this procedure is to provide means to the user to create a custom procedure outlining and specifying the requirements and responsibilities for general safe working. This procedure applies throughout the Kingdom of Saudi Arabia to Operations and Maintenance functions and activities on government owned facilities and projects.

## 3.0 DEFINITIONS

| Definitions | Description                                                                                                                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANSI        | American Nation Standards Institute                                                                                                                                                                                                    |
| COSHH       | Control of Substances Hazardous to Health                                                                                                                                                                                              |
| Competent   | Someone who has the right combination of training, skills, experience and knowledge and has the ability to apply them to perform a task safely.                                                                                        |
| dB(A)       | Decibel = Relative loudness of sounds in the air as perceived by the human ear.                                                                                                                                                        |
| EN          | European Norm                                                                                                                                                                                                                          |
| GFCI        | A ground fault circuit interrupter (GFCI), or a Residual Current Device (RCD) is a device that shuts off an electric power circuit when it detects that current is flowing along an unintended path, such as through water or a person |
| HSE         | Health, Safety and Environment                                                                                                                                                                                                         |
| IR          | Infrared Radiation                                                                                                                                                                                                                     |
| JHA         | Job Hazard Analysis                                                                                                                                                                                                                    |
| LPG         | Liquefied Petroleum Gas                                                                                                                                                                                                                |
| OSHA        | Occupational Safety and Health Administration                                                                                                                                                                                          |
| PPE         | Personal Protective Equipment                                                                                                                                                                                                          |
| PSI         | Unit of pressure expressed in pounds of force per square inch of area. It stands for Pounds per Square Inch (PSI)                                                                                                                      |
| SDS         | Safety Data Sheet                                                                                                                                                                                                                      |
| SWL         | Safe working Load.                                                                                                                                                                                                                     |
| WMS         | Work Methods Statement                                                                                                                                                                                                                 |

## 4.0 REFERENCES

- OSHA 1910 Subpart P Tools-Hand and Power
- OSHA 1910 Subpart I Personal Protective and Life Saving Equipment
- Waste Management Procedure, See Table 1
- EOM-KSS-PR-000011 Portable Ladders Inspection and Control Procedure
- EOM-KSS-PR-000029 Excavation and Trenching Procedure
- EOM-KSS-PR-000013 Work Over or Near Water Procedure
- EOM-KSS-PR-000002 Housekeeping Procedure
- EOM-KSH-PR-000008 Heat Stress Management Procedure
- EOM-KSS-PR-000032 Powder Actuated Tools Procedure
- EOM-KSS-PR-000027 Safety Watches Procedure
- EOM-KSS-PR-000003 Personal Protective Equipment Procedure
- EOM-KSS-PR-000007 Confined Space Entry Procedure
- EOM-KSS-PR-000005 Fall Protection Procedure
- EOM-KSS-PR-000006 Barricades and Signs Procedure
- EOM-KSS-PR-000030 Scaffolding Control Management Procedure
- EOM-KSS-PR-000028 Lockout/Tag out Procedure
- EOM-KSS-PR-000024 Manual Material Handling Procedure
- Saudi Arabia's Ministerial Decision No. 404 dated 26 July 1974.



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- BS EN510443

| Title                                                 | Document Type | Document No.      |
|-------------------------------------------------------|---------------|-------------------|
| Waste Management Procedure for Healthcare             | Procedure     | EOM-ZO0-PR-000077 |
| Waste Management Procedure for Schools & Universities | Procedure     | EOM-ZO0-PR-000078 |
| Waste Management Procedure for Offices                | Procedure     | EOM-ZO0-PR-000079 |
| Waste Management Procedure for Municipal              | Procedure     | EOM-ZO0-PR-000080 |
| Waste Management Procedure for Housing                | Procedure     | EOM-ZO0-PR-000081 |
| Waste Management Procedure for Parks & Recreation     | Procedure     | EOM-ZO0-PR-000082 |

Table 1: Waste Management Procedure References

## 5.0 RESPONSIBILITIES

### 5.1 Asset Manager

Asset Manager's responsibilities include the following:

- Overall responsibility for this procedure and for supporting this process and verifying all Facility's actively participate.
- Provide the personnel, facilities, and other resources with the training, information and awareness required to enable all employees and contractors to effectively comply with this procedure.

### 5.2 Facility Manager

The Facility Manager is responsible for monitoring that the site is in compliance with applicable HSE requirements by:

- Provide the training material and resource to implement the requirements of this procedure.
- Communicate with management concerning Facility HSE requirements concerning general safe work practices.
- Provide leadership regarding Health, Safety & Environment (HSE) requirements and expectations for Managers, Supervisors, superintendents and other leadership.

### 5.3 HSE Manager

Facility HSE Manager's responsibilities include the following:

- Audit compliance to this procedure.
- Confirm that this procedure complies with any mandatory, statutory requirements and regulations applicable to the Facility.
- Provide HSE advice to management, where required, on implementing the requirements of this procedure

### 5.4 Facility Personnel

Facility personnel's responsibilities include the following:

- Know and understand the requirements of this Procedure that apply to the work they perform.
- Request additional information and further clarification before starting any work if personnel receive assignments they do not understand.
- Comply and abide by this General Safe Working Requirement Procedure for any work they perform.



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## 6.0 GENERAL

### 6.1 Employees Conduct

Employees who engage in antics, fighting, gambling, horseplay or who violate this, or other, procedures or display disregard the laws of the Kingdom of Saudi Arabia may be terminated from work.

### 6.2 Dress Requirements

- All personnel are required to wear clothing appropriate for the work being performed. Loose clothes such as kameez, shalwaar, and thobe are unacceptable for work activities.
- Persons working near moving machinery must prevent clothing and body parts from being caught by moving components.
- Clothing saturated with grease, paint, thinners, solvents, or similar materials will not be worn.
- Safety boots must be worn by all persons that work or visit the site, boots must comply with either American Nation Standards Institute ANSI or European Norm EN Standards. Excessively damaged Personal Protective Equipment (PPE) will be replaced.
- Minimum standards of PPE must be worn at all times, as defined by site rules (typically, safety helmet, eye protection, hearing protection, hi-visibility vest, gloves, steel cap safety boots) All safety PPE must conform with national standards.

### 6.3 Communication and Electronic Equipment

- Potential distractions such as radios, music players, or any similar equipment shall not be played on work sites.
- Use of cell phones should not be allowed for employees engaged in work tasks or operations that may be considered critical, hazardous, or where the use of such devices could increase the potential for incident due to distractions caused by the use of such device. Third parties such as ministries, government entities shall develop local communication devices' use policies that meet this requirement. Some sites may have 'safe zones' designated and signed, where the use of cell phones are permitted.
- Facilities should develop their own pre-authorization process to control the use of photographic equipment.

### 6.4 Smoking

Smoking is permitted only in Contractor-approved, signed designated areas and housekeeping must be maintained at all times. Designated smoking areas must contain:

- Rubbish container.
- Non-combustible reciprocals for cigarettes.
- Fire Extinguishers.
- Appropriate signage 'DESIGNATED SMOKING AREA' (In both Arabic and English)

No smoking areas include but not limited to:

- No smoking in vehicles on-site.
- No smoking in and within 5 m of offices, breezeways, all accommodation rooms, crib huts, storage, and warehouse areas.
- Near combustible and/or to flammable process chemicals. Smoking areas shall be removed a safe distance away from the applicable areas.



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### **6.5 Barricades, Tags and Signs**

All working activities shall be properly barricaded and every barricade/barrier shall have information tags or signs (In both Arabic and English) on every side and provide information regarding the hazard, entry requirements, and the name of the responsible Supervisor and controlling entity. Tags shall include:

- Name of person erecting the barricade.
- Person's contact information.
- Name of employer or organization.
- Date and time of erection.
- Nature of Hazard.

All barricades shall have appropriate signage communicating the type of hazard associated with the barricading. The meaning of safety signs shall be communicated to the workforce at the induction, toolbox meetings, and Pre-start meetings. Barricade signs/tags shall:

- Be erected on the barricade within easy visibility to all ensuring all personnel are aware of the associated hazard
- Be a combination of words and symbols, where practicable
- Be formed in a number of different common staff languages where appropriate and reasonably practicable.
- Be suitable for the intended purpose and environment.
- All personnel should be aware of the different signage associated with the Facility. Training information of awareness shall be provided. Asset management will determine the best form of communication regards to employee training and awareness.

### **6.6 Medical Services and First Aid**

Provision for first aid treatment facilities must be provided and all emergency equipment shall be inspected daily to ensure stock levels are adequate and cleanliness.

First aid facilities must be clearly marked and visible to all from distance.

Proper sterilization methods and materials shall be used and provision made for proper disposal of hazardous medical wastes, including a "sharps" container for the secure disposal of used needles and similar medical items.

Facility personnel who provide first response medical treatment shall be adequately trained and qualified, with a copy of their current certifications maintained at the Facility.

Job sites must have a plan to ensure injured employees are referred to qualified industrial/occupational medical providers if offsite treatment is required and provide or obtain transportation for such offsite medical treatment. For further details on legal requirements, please refer to Saudi Arabia's Ministerial Decision No. 404 dated 26 July 1974.

### **6.7 Emergency Flushing, Eyes and Body**

If personnel are exposed or contact with corrosive or toxic materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. Suitable quantities must be available for continued flushing and irrigation during transportation to hospitals or other professional medical facilities. The use of emergency eye wash stations shall be reported immediately, so the equipment can be refilled and the individual can be evaluated for any additional required medical treatment. They should also be part of daily inspections.

### **6.8 Hand, Air, and Electrical Tools**

All hand tools shall be used as per the Manufacturer's Operating Manual and local work area requirements/instructions. No modifications shall be made to any device without the manufacturer's permission.





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All used hand, air, and electrically powered tools must meet or exceed applicable SASO requirements, where a national standard is not available, international standards such as BS EN51044 or equivalent apply. Portable Appliance Testing (PAT) with respect to portable electrical appliances.

- Tools should be appropriate for the task being carried out - in accordance with the Works Method Statement (WMS), Job Hazard Analysis (JHA) or equivalent.
- Suspect damaged and defective tools must be taken out of service, tagged "Do Not Use," and stored in a controlled "quarantine" secured area until appropriate repairs have been made.
- Tools are not to be altered in any way and will be operated in accordance with manufacturing specifications.
- Tools, such as power saws and grinders, will have safety guards in place during their operation. It's not allowed to remove the safety guards from the machine during operation.
- Tools will be inspected prior to each use for defects such as cracked handles, damaged cutting edges, splitting or cracked parts, and broken adjusting components. Damaged tools must not be used.
- Tools will be used only for their intended purpose and no modifications shall be made.
- All electrically powered tools will be double insulated or grounded and have current PAT labels/certificates.
- Grinders must be equipped with a constant pressure switch.
- The rated speed of the grinding disc or wheel shall be checked prior to use to ensure that it is rated to be equal to or greater than the maximum speed of the grinder.
- User must follow all manufacturers' requirements for mounting grinding wheels, to include:
  - The mounting nut shall not be tightened excessively.
  - Grinders shall be unplugged from the power source (electrical or pneumatic) before changing wheels.
- Users shall ensure that portable grinders are properly configured for use for a left or right handed person, as applicable portable grinders must be used with side handles installed, as required by the manufacturer (using a grinder without the safety handle in place shall be prohibited).
- Supervision shall ensure that frequent light dressings on bench grinders are performed.
- When operating a bench grinder, users shall stand off to one side until the wheel has come up to full speed.
- Personnel shall conduct a "ring test" before using a bench grinder (i.e., gently tap the wheel with an object and there should be a metallic tone or "ring". If there is a "dead" sound, the wheel shall be taken out of service).
- Electric bench grinders shall be equipped with an anti-restart feature to prevent restart after an electrical power outage.
- Air hoses for tools and other equipment will be secured together to preclude uncontrolled whipping in the event hose couplings become separated while under pressure.
- Air supplying hoses exceeding 1.2cm internal diameter will be protected by excess flow valves to prevent "whipping" in the event of hose separation or failure.
- The pressure of compressed air used for cleaning purposes must be reduced to 30 psi or less.

### 6.9 Electrical Installations - General Requirements

Electrical installations must be executed in compliance with applicable SASO requirements. Used material must meet or exceed applicable SASO requirements, where a national standard is not available, international standards such as IEC 60364 will apply. The following points should be also followed:

- All required electrical portable electrical appliances shall display current PAT testing labels or certification shall be evident.
- Lamps for general illumination will be protected from breakage, and metal shell sockets will be grounded.
- Temporary lights will not be suspended by their cords, unless they are so designed.
- Portable lighting used in wet or conductive locations, such as tanks or manholes, will be operated at no more than 12 volts or will be protected by Ground Fault Circuit Interrupter GFCI.
- Extension cords will be of the three-wire type. Extension cords and flexible cords used with temporary and portable lights will be designed for hard or extra hard usage.



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- Listed, labeled, or certified equipment will be installed and used in accordance with instructions included in the listing, labeling, or certification.
- Extension cords shall be limited to temporary use only

### 6.10 Jacks, Rollers and Lifting Devices

- All capacities, warnings, and other safety related information originally provided on the equipment by the manufacturer must be maintained in legible condition, and shall be complied with.
- Do not overload jacks, stands, and rollers. Know their capacity and the weight of the object to be supported. SWL should be visible and test certification available, if required.
- Positive stops must be provided to prevent over-travel. Blocking or cribbing as necessary to provide stability must be provided. After raising or moving a load, the load must be positively blocked or cribbed to prevent unintended movement.
- Modification to any jacks rollers or lifting devices is forbidden.
- Daily, or before use inspections, must be performed on jacks, rollers and other devices. Facilities will develop register/checklists.
- Do not use jacks or stands that have obvious deformed bent or damaged parts.
- All such equipment shall be protected against freezing and properly stored when not in use.
- Inspection of the equipment must be performed regularly by a qualified person and recorded on a register. Examples as follows:
  - On a quarterly basis.
  - After major repair or service.
  - Upon receipt from storage or issuing facility.
  - After being subjected to abnormal conditions or shock loading.
  - Before each use.
- Barrier off and apply signage. Never allow anyone under a jack, or stand, that is supporting a load.
- Don't attempt to extend the supporting components of a jack or stand by adding pipe or wood blocks to the jack or stand. Only use extension devices that have been approved by the jack or stand manufacturer.
- Use jacks only on level stable surfaces certified to support the intended load. Matting, wood or plate may be required to provide an appropriate supporting surface.
- Secure set screws and safety devices after adjustments of jack/stand height, and before placing a load on the jack/stand.
- Do not push or pull loads that are sitting on jack stands.

### 6.11 Saws

All saws must have CE marking or equivalent, saws must follow the below requirements as a minimum and are operated as per the Operators Manual. It is important that before each use the saws are inspected to ensure they are in good condition and are fit for purpose.

#### 6.11.1 Band Saws

- All portions of band saw blades will be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table.
- Band saw wheels will be fully encased.

#### 6.11.2 Portable Circular Saws

- Portable, power-driven circular saws will be equipped with guards above and below the base plate or shoe.
- The lower guard will cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work.
- The lower guard will automatically return to the covering position when the blade is removed from the work.



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### **6.11.3 Radial Saws**

- Radial saws will have an upper guard that completely encloses the upper half of the saw blade. A device that will automatically adjust to the thickness of and remain in contact with the material being cut will guard the sides of the lower exposed portion of the blade.
- Radial saws used for ripping will have non-kickback fingers or dogs.
- Radial saws will be installed so that the cutting head will return to the starting position when released by the operator.

### **6.11.4 Swing (or Sliding Cut-Off) Saws**

- All swing or sliding cut-off saws will be provided with a hood that will completely enclose the upper half of the saw.
- Limit stops will be provided to prevent swing or sliding type cut-off saws from extending beyond the front or back edges of the table.
- Each swing or sliding cut-off saw will be provided with an effective device to return the saw automatically to the back of the table when released at any point of its travel.
- Inverted sawing of sliding cut-off saws will be provided with a hood that will cover the part of the saw that protrudes above the top of the table or material being cut.

### **6.11.5 Table Saws**

- Circular table saws will have a hood over the portion of the saw above the table, so mounted that the hood will automatically adjust itself to the thickness of and remain in contact with the material being cut.
- Circular table saws will have a spreader aligned with the blade, spaced no more than 1.26cm behind the largest blade mounted in the saw. This provision does not apply when grooving, or rabbeting.
- Circular table saws used for ripping will have non-kickback fingers.
- Feeder attachments will have the feed rolls or other moving parts covered or guarded so as to protect the operator from hazardous points.
- Push sticks will be used when feeding material.

## **6.12 Compressed Air Tools**

- Compressed air shall not be used for cleaning or blowing dust from any part of the body or clothing.
- Air-supplying hoses for tools and other equipment shall be secured together by pins and whip-check connector lanyards to preclude uncontrolled whipping in the event hose couplings become separated while under pressure.
- Air-supplying hoses exceeding 13 mm internal diameter shall be protected by excess flow valves to prevent “whipping” in the event of hose separation or failure.
- Air-supplying hoses shall be protected from damage, inspected regularly, and maintained in good condition.
- Air-supplying hoses and hose connections used for conducting compressed air shall be designed for the pressure and service to which they are subjected.
- The pressure of compressed air used for cleaning purposes shall not exceed 30 psi when the nozzle end is obstructed or dead ended, and then only with effective chip guarding and PPE.

## **6.13 Abrasive Blasting**

Abrasive blasting operations shall require an approved Job Hazard Analysis JHA. During abrasive blasting operations the following requirements shall be met:

- Personnel performing blasting shall be trained and qualified to use the equipment.



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- Blasting equipment shall be inspected before use and hoses must be rated for the blasting media and manufacturer's recommended pressure.
- Blasting equipment shall be equipped with an operable automatic safety shut-off (dead-man switch).
- Abrasive blasting operators shall wear proper blasting hoods, body protection, and respiratory protection in accordance with Occupational Safety and Health Administration OSHA Standards.
- Air supplied to respiratory protection shall be provided from a breathing air compressor and meet applicable breathing air standards.
- Abrasives shall not contain more than 1% crystalline silica.
- Health hazards arising from grit dust produced from any surface coating present shall be identified and precautions specified.
- Blasting media may be considered regulated waste. Removal plans for the media must be approved before blasting commences.
- Pressure vessels used in blasting operations must be manufactured in accordance with the applicable pressure vessel code.
- All air hose connections shall have whip-checks, in addition to clips or other restraints that are used as part of the manufacturers coupling system, to prevent whipping.
- Precautions shall be taken to address electrostatic discharges. The metal casing and frame of the compressor and all other metal equipment including scaffolding shall be earthed. Hoses shall be constructed of conductive rubber or include metal braid to provide an electrical bond between hose and coupling.

### 6.14 Petrol Powered Tools

- Petrol powered tools shall not be used in unventilated areas.
- Petrol shall be dispensed only in approved and labelled metal safety containers.
- Tools shall not be refueled while the engine is running or hot.
- Fuel shall only be stored in designed and certified metal fuel containers with proper labels attached.

Refer to EOM-KSS-PR-000022 Hazard Communication Procedure and EOM-KSE-PR-000001 Pollution Control Procedure for further information on storage and handling of petrol.

### 6.15 Powder Actuated Tools

Only personnel who have been trained and certified in the operation of the particular tool in use shall be allowed to operate a powder-actuated ("explosive powered") tool. The employee will follow these observations.

- The tool shall be inspected each day before loading to see that safety devices are in proper working condition. The method of inspection shall be in accordance with the manufacturer's recommended procedure.
- Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service, tagged "Out of Service," and not used until properly repaired.
- Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any personnel. Hands shall be kept clear of the open barrel end.
- Check and establish an Exclusion Zone on both sides of the fastening face prior to the loading of the tool, to ensure that nobody is working or can enter the area on the other side or behind the wall face.
- Charges are to be kept secured and only sufficient chargers for task withdrawn from stores. All charges to be accounted for. Misfires are to be returned to the Supervisor. After two misfires, tag out the tool and report to Superintendent.
- Loaded tools shall not be left unattended.
- Fasteners shall not be driven into very hard or brittle materials, including cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.
- Avoid driving into materials easily penetrated unless such materials are backed by a substance that shall prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.



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- No fastener shall be driven into a damaged area caused by an unsatisfactory fastening.
- Tools shall not be used in an explosive or flammable atmosphere.
- All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer.
- PPE for using powder actuated tools shall include a full face shield, approved hearing protection, and hand protection.

More information can be found in EOM-KSS-PR-000032 Powder Actuated Tool Procedure.

### 6.16 Welding and Burning

#### 6.16.1 Welding

Welding works shall be undertaken with reference to EOM-KSS-PR-000019 Welding Operations Procedure, additionally A risk assessment should be undertaken and a method statement in place for all aspects of welding operations, taking into account all requirements, including the following:

- Welding operations must be performed by a competent person, employees must be trained in and comply with the requirements for proper fire prevention and equipment use when welding.
- During welding, welders shall wear safety glasses and hardhat/welding hood combinations manufactured to an international standard.
- Welding screens shall be used to protect other employees from the hazards associated with direct welding arc rays.
- Where temporary welding enclosures are required, these enclosures are constructed with flame resistant materials (such as fire blanket).
- A fire safety watch must be in place when required.

#### 6.16.2 Burning

- Do not use matches or lighters to ignition torches. Spark igniters must be used. Torches must not be used to light smoking materials.
- When a wrench is required to operate the acetylene cylinder valve, the wrench must be kept in position on the valve
- Do not use oxygen to blow off clothes or clean welds, serious skin burns or death may result
- Turn off all hoses and regulators when they are not in use and disconnect them from the cylinder/tank at the end of shift
- Wear suitably approved burning goggles to protect against infrared radiation (IR).
- Before plasma air arcing/burning determine what metals are present. Additional precautions may be necessary if Chromium or other heavy metals are present.
- A fire safety watch must be in place when required.

### 6.17 Safety Watches

In order to maintain a safe work environment and for the early detection and warning of deteriorating conditions and potentially unsafe situations, certain activities require the use of a safety watch.

Personnel assigned to perform safety watch responsibilities are specifically trained and assigned to warn others of potentially unsafe situations or emergency conditions and to provide safety action as necessary. An appropriate number of safety watches shall be provided to safely complete affected work activities.

Safety watches shall stop work whenever conditions are at risk or if conditions change from that referenced on the JHA. Safety watches shall not leave an assignment until they have been replaced by another qualified safety watch. Safety watches must remain in place for at least 30 minutes after completion of hot work.



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Before performing watch duties (confined space or fire), selected Project personnel shall be given training and shall be ready to indicate that they are authorized and have received the appropriate Safety Watch training.

### 6.18 Vehicle Safety

All Mobile equipment must be registered/licensed, maintained in a roadworthy and fit for purpose condition, and operated in a safe manner in accordance with manufacturer recommendations and vehicle operators are certified healthy, unimpaired, have the required operator's license, and observe established road, Location regulations. Mobile equipment must be inspected by a third party and certified where required.

- Seat belts shall be worn at all times when traveling or operating vehicles or machinery.
- All vehicles in use shall be checked at the beginning of each shift to ensure that all parts, equipment, and accessories that affect safe operation are in proper operating condition and free from defects. Certification will be evident where required.
- Vehicles must be secured, i.e., transmission in park or in a low gear and parking brake engaged before the operator exits the vehicle.

### 6.19 Painting

Painting activities shall be coordinated to protect flammable paints and solvents from sources of ignition, and to protect Project personnel from exposure to harmful paints and solvents:

- Paints and solvents shall be stored in suitable paint lockers when not in use.
- Practical precautions shall be implemented to minimize paint waste and over-spray.
- Paint waste shall be properly collected, labeled and disposed of as per Waste Management procedure
- Precautions shall be implemented to prevent paint, solvent, and vapors from entering air intake or ventilation equipment.
- Spray painting cannot be performed without coordination from surrounding work activities.
- Spray painting shall not be performed within 23 m of ignition sources e.g. welding.
- Proper PPE must be worn by employees mixing and applying paint, and cleaning paint tools and equipment.
- No smoking is permitted in paint storage, mixing, applying, and cleaning areas.
- Painting activities shall be able to cease immediately stop in the event until a HSE Representative states it is safe to restart.
- Housekeeping must be maintained always in painting areas.
- Safety Data Sheets or Control of Substances Hazardous to Health (COSHH) sheets for painting/coating materials must be readily available and reviewed by affected personnel prior to starting painting activities.

Refer to EOM-KSS-PR-000022 Hazard Communication Procedure and EOM-KSE-PR-000001 Pollution Control Procedure for further information on storage and handling of paint.

### 6.20 Waste Material

Details are found in Waste Management Procedure (Table 1). Appropriate disposal of waste materials includes the following:

- Waste materials shall be segregated and placed in the proper receptacle for disposal or recycling
- Only clean waste is to be placed in rubbish bins
- Hazardous waste must be placed in the appropriate containers labelled and designated as to content weight etc. The Waste Management Procedure will be adhered to at all times.





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### 6.21 Hazardous Waste

Please refer to Waste Management Procedure (Table 1). Hazardous wastes (such as paints, solvents, thinners, oils, and greases) and any other material or containers which have contained chemicals shall be handled and disposed of in accordance with the requirements on the associated SDS (or COSHH sheets), Waste Management Procedure and in compliance with applicable regulatory requirements.

### 6.22 General Ergonomics

- Perform tasks with good posture and use large muscle groups when lifting, placing or moving objects (bend your knees, not your back)
- Keep wrists in a relaxed, neutral position when using hand or power tools
- Evaluate body position for good balance, and be aware of body position when using power tools that can bind or “kick back”
- Use three points of contact when ascending or descending equipment, stairs, ladders, or ramps
- When work tasks involve stooping, squatting or other non-neutral positions, stop as needed to stretch muscles and ligaments.

Refer to EOM-KSS-PR-000024 Manual Material Handling Procedure.

### 6.23 Back Injury Prevention

Back injury prevention shall be an integral part of any New Employee Orientation and continually emphasized through safety meetings, tool box meetings, and pre-job briefings.

### 6.24 Heat Stress

When heat is combined with physical activity, loss of fluids, fatigue, and other conditions, heat related illness may occur. Heat stress can be reduced by:

- Drinking plenty of water and electrolyte containing drinks.
- Wearing and re-applying sun screen product frequently.
- Eating properly – don’t skip meals and avoid heavy meals.
- Wearing light colored clothing, preferably cotton clothing.
- Getting plenty of rest at night.

Personnel shall be trained to recognize the signs and symptoms of heat stress. These include the following:

- **Heat cramps** – Heat cramps are painful muscle cramps caused by a loss of body salt through excessive sweating.
- **Heat exhaustion** – Heat exhaustion indicates that the body’s cooling system is not working properly. The victim may sweat heavily, their skin may be cool and moist, and they may seem tired, confused, clumsy, irritable, or upset. The victim may tell you that they are okay, even with obvious symptoms because their ability to exercise good judgment may be lost.
- **Heat Stroke** – Heat stroke is the deadliest of all heat stress conditions. The body temperature will rise; the victim’s skin may be hot, red, and dry.

### 6.25 Noise levels in operations

Practical engineering or administrative controls, including noise mapping, shall be used to protect personnel against sound levels more than those shown below (Table 2).

Exposure to impulsive or impact noise should not exceed 140 dB(A) peak sound pressure level. When engineering or administrative controls fail to reduce sound levels within the limits shown above, approved ear protective devices shall be provided and used.



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| Duration<br>(hours/day) | Sound Level,<br>dB(A) slow response |
|-------------------------|-------------------------------------|
| 12                      | 82                                  |
| 10                      | 84                                  |
| 8                       | 85                                  |
| 4                       | 88                                  |
| 2                       | 91                                  |
| 1                       | 94                                  |
| ½                       | 97                                  |
| ¼                       | 100                                 |

Table 2: Threshold Limit Values for Noise Exposure

In all cases where the sound levels exceed the values shown, a continuing, effective hearing conservation program shall be administered. Employees shall be trained in the proper use of hearing protection. Refer to EOM-KSH-PR-000010 Hearing Conservation Procedure and EOM-KSS-PR-000003 Personal Protective Equipment Procedure for further details on Hearing Conservation requirements.

### 6.26 Access and Egress

- Every building designed for human occupancy will be provided with clearly marked exits sufficient to permit the prompt escape of occupants in case of emergency.
- In hazardous areas, or where employees may be endangered by the blocking of any single means of egress due to fire or smoke, there will be at least two means of egress remote from each other.
- Exits and the way of approach and travel from exits will be maintained so that they are unobstructed and are accessible at all times.
- All exits will discharge directly to an open space that gives safe access to a public way.
- Exit doors serving more than 50 people, or at high-hazard areas, will swing in the direction of exit travel.
- Readily visible, suitably illuminated exit signs will mark exits. Exit signs will be distinctive in color and provide contrast with surroundings. The word "Exit" will be of plainly legible letters, not less than 15cm high.
- Any door, passage, or stairway that is neither an exit nor a way of exit access and that is so located or arranged as to be mistaken for an exit, will be identified by a sign reading "Not an Exit" or similar designation.
- Access and egress associated with work sites shall be managed based upon conditions at that particular site and shall be regularly reviewed as site conditions change during construction phases.
- Familiarization with Emergency escapes will be part of any orientation training.

Refer to MOI ministerial decree# 10/K/W/2/DF Safety and protection requirements for administrative and residential buildings, EOM-KSS-PR-000004 Fire Prevention and Protection Procedure and EOM-KSS-PR-000014 Emergency Preparedness Procedure for further details

### 6.27 Liquefied Petroleum Gas (LPG)

- Each system will have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type.
- Every container and vaporizer will be provided with one or more approved safety relief valves or devices with current safety valve test certificate.
- Containers will be placed upright on firm foundations or otherwise firmly secured.
- Portable heaters will be equipped with an approved automatic device to shut off the flow of gas in the event of flame failure.
- All cylinders will be equipped with an excess flow valve to minimize the flow of gas in the event the fuel line becomes ruptured.
- Storage of liquefied petroleum gas within buildings is prohibited.





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- Storage locations will have at least one approved suitable portable fire extinguisher rated not less than 9 kg Class B and C.

### 6.28 Work Permits

Permits to work are required to be submitted, coordinated and approved by Facility employees, contractors and subcontractor personnel. Examples of hazardous activities that may require a permit are detailed below:

- Confined Space entry.
- Hot Work typically including Welding, burning, grinding including photography.
- Work at height.
- Work over water
- Maintenance work on equipment.
- Pressure Testing or other hazardous operational activities
- Diving operations.
- Flying operations such drones etc.
- Radiography.

Sign off by management, HSE and employees is required to assure safe and correct evaluations are in place to satisfy safe working requirements that understood by all. Refer to EOM-KSS-PR-000016 Hazardous Work Permit Procedure for further details and Work Permits requirements.