

SAFETY HANDBOOK FOR CONTRACTORS

Environment, Health and
Safety Department

EMSTEEL.COM

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Introduction

Emirates Steel (Part of EM Steel Group) believes that all injuries, occupational illnesses, and environmental incidents are preventable. Emirates Steel is committed to relentlessly pursuing a goal of zero harm, both for their own staff, and the staff of the Contractor/Sub-Contractor companies with which they engage.

This handbook contains the minimum safety rules applicable to contractors or anyone performing Work inside Emirates Steel premises. It guides safe working practices towards maintaining a safe and injury-free environment.

Emirates Steel (Part of EM Steel Group) expects all their Contractors to comply with the EH&S requirements detailed in this document during their work.

Emirates Steel (Part of EM STEEL Group) HSE Principles

Principles are the Fundamental norms, rules, or values that represent what is expected by the organization (Emirates Steel) and its employees and help it determine the rightfulness or wrongfulness of its actions. It outlines the organization's health, safety, and environmental philosophy. Emirates Steel HSE Principles are shown in the figure below;

- 1 Working in a healthy, safe, and environmentally responsible way is a condition for continued employment**
- 2 All Injuries, illnesses, and HSE incidents can and must be prevented**
- 3 Line Management is responsible and accountable for HSE performance**
- 4 Safety excellence is at the heart of business success**
- 5 Involvement and training of all employees is essential to achieving HSE excellence**
- 6 HSE risks must be reviewed and corrected periodically**
- 7 Off-site health and safety is an important part of the HSE effort**

Emirates Steel Life-Saving Rules

Emirates Steel has implemented a set of Life Saving Rules, which shall be complied with by all personnel (including Contractors). All Contractor and Sub-Contractor employees assigned to work on activities at Emirates Steel must receive familiarization training on these rules prior to mobilization, firstly from their own company management, and secondly, Emirates Steel shall include an awareness summary of their Life-Saving Rules in the H&S Induction training which they will provide immediately before Contractor and Sub-Contractor employees coming on site. Emirates Steel expect strict compliance. Violating a Life-Saving Rule will subject the violator to serious disciplinary actions



Working at Height

Protect yourself from falling from height

- Never work at height without authorization
- Never work at height unless you have been trained on your fall protection equipment and on working at height
- Always inspect your fall protection equipment before and after use
- Always secure all tools, equipment, and work materials to prevent dropped objects
- Always tie-off to fixed and secure anchor points



Confined Space

Protect yourself from hazardous atmospheres & avoid becoming trapped in confined spaces

- Never enter a confined space unless you have been trained on confined space entry
- Never enter a confined space unless you have obtained formal authorization (PtW)
- Never enter a confined space unless you have confirmed that the atmosphere has been tested and is being monitored
- Never enter a confined space unless you have confirmed that all energy sources are isolated
- Never enter a confined space unless you have confirmed that a rescue plan is in place
- Always stop work if gas is detected or if conditions change, go to a safe place, and inform your supervisor



Lock Out Tag Out

Protect yourself from hazardous energy

- Identify all energy sources associated with your operation
- Confirm that all energy sources have been isolated, locked, and tagged out before starting work
- Confirm that any stored energy has been released before starting work
- Stop work and notify your supervisor if conditions change or the isolation has been compromised



Permit to Work

Protect yourself from the risks associated with unauthorized activities

- Never work without authorization
- Always comply with the requirements of the permit-to-work process
- Always confirm that the hazards are controlled as outlined in the PtW and associated JSA before starting work
- Stop work and notify your supervisor if the job scope or the risks change or if the permit controls are affected



Traffic & Driving

Protect against traffic accidents

- Always make sure you are aware of and adhere to local and site-specific traffic rules
- Always wear a seatbelt when you are in a moving vehicle or mobile equipment
- Never use handheld mobile phones, operate devices, or engage in any form of distraction while driving or operating mobile equipment
- Never exceed the speed limit and reduce your speed to account for road and weather conditions
- Never drive under the influence of alcohol, drugs, medications, or any other substance that could impair your ability



Safety Devices & Safety Systems

Never compromise safety devices or safety systems

- Never remove, bypass, override, disable, or tamper with safety devices or systems without authorization
- If you suspect a safety device or a safety system has been compromised without proper authorization, stop work immediately and notify your supervisor



Dropped Objects & Mechanical Lifting

Protect against falling objects

- Always secure objects properly when you place them at a height
- Never stand or walk under a load that is suspended, being lifted, or moved
- Never operate lifting equipment unless you are trained and authorized to do so
- Always ensure that the load is secure, balanced, and within the rated capacity of the equipment and accessories
- Never attempt to stop or guide a suspended load manually; always use a tag-line or a controlling device
- Always ensure lifting zones are barricaded and adhere to barriers and exclusion zones



Smoking in Non-Designated Areas

Protect against fire by only smoking in designated areas

- Never smoke in non-designated areas
- Only extinguish and dispose of cigarette butts in the designated fire-safe containers



Energized or Moving Equipment

Protect yourself from the hazards associated with energized or moving equipment

- Never work on energized or moving equipment if it is practically feasible to stop, isolate, and de-energize
- Never attempt to inspect, test, maintain, or repair any energized or moving equipment without authorization
- Always ensure that the risks are identified and that the appropriate controls are implemented
- Never wear loose clothing, jewelry, or other items that could become entangled

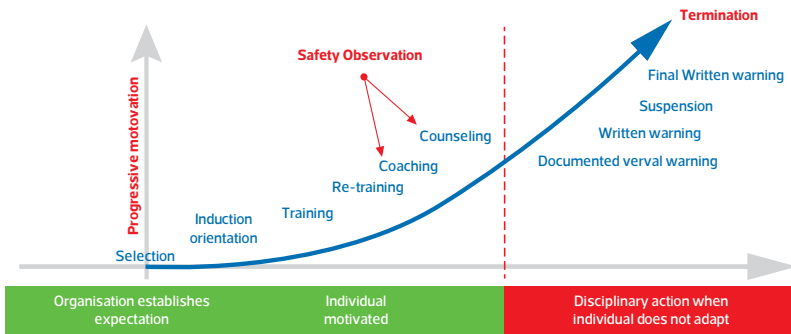
Disciplinary Actions

Emirates Steel expects contractors to be partners in HSE management to create safe working conditions and an environment for all.

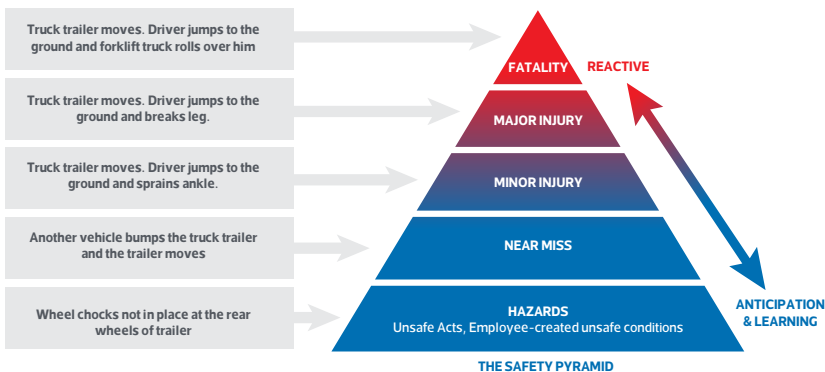
Contractors are responsible for monitoring and enforcing disciplinary processes for their workers. Contractors shall monitor their workers to ensure unsafe conditions/acts are not created. Failure to follow and maintain described safe work practices may result in disciplinary actions against the Contractor's supervision.

If any Emirates Steel HSE requirements or rules, including but not limited to life-saving rules, safe work practices, policies or others, are not followed, disciplinary actions must be applied to contractor employees. All LSR Violations must be investigated and report shall be submitted to Emirates Steel along with the corrective actions.

Entrenching operating discipline:



We can prevent injuries by focussing on the bottom layer of unsafe acts as part of a proactive approach



EMSTEEL Policy

(Quality, Environment, Health, Safety, Sustainability, Energy, Innovation & Knowledge Management Systems)

- Comply with applicable legal, standards and other requirements to which it subscribes.
- Meet customer requirements and enhance customer satisfaction.
- Identify and manage risks to climate change, environment, energy, health and safety, human rights, security arrangements, labour rights, wellbeing, mental health, social and economic aspects and recognize the interaction between them.
- Contribute to social and economic development of its community.
- Eliminate hazards, prevent injury or illness to people, damage to environment and properties.
- Monitor and minimize the impacts of its activities, products, services, and transportation through the value chain including effective emissions treatment and control, resources conservation, and responsible sourcing.
- Support design and procurement activities that consider energy performance improvement.
- Promote best practices for incident prevention, pollution prevention, sustainability, ethical business, and corporate governance.
- Provide appropriate information and resources and ensure employees have the necessary knowledge, skills, and competencies.
- Engage stakeholders and understand their requirements, risks, and opportunities.
- Manage consultation and participation of employees and functions at applicable levels.
- Promote creativity across the business; built on ethical & sustainable innovation management principles.
- Set expectation to use knowledge management system and cultivation of culture that values knowledge, ensuring balance between knowledge sharing & knowledge protection.
- Establish, monitor, review, and achieve its objectives, targets and continually improve its Management Systems to enhance performance.

- Communicate this policy within the organization and make it available to interested parties.

EMSTEEL shall periodically review this policy to ensure it supports the company's strategic direction and that it remains relevant and appropriate to the purpose and context of the company, including the nature, scale and impacts of its activities, products, and services.

* Sustainability, Energy, Innovation & Knowledge Management Systems, and related commitments are applicable only to Steel Units



Induction

Contractors shall receive Emirates Steel EH&S induction training before entering the work premises (Refer HSD-PR-009). This can be organized by submitting a request to safetyinduction@emiratessteel.com.

An evaluation of the candidates will be done through a short test at the end of the induction training. Emirates Steel reserves the right to refuse entry to any Emirates Steel worksite for any contractor personnel that have either not satisfactorily completed the EH&S induction training as described above or have failed the training comprehension test. The driver safety induction for the contractors will be conducted through an online platform (Refer procedure HSD-PR-009).

Tool Box Talks (TBT)

Toolbox talks are a cornerstone of communicating work site risk to workers. All Contractor Supervisors/lead hands must deliver effective toolbox talks to the workers before each shift.

Toolbox safety talks provide a convenient and effective method of communicating with the workforce, involving the employees in safety efforts and reinforcing the safety message about the job. It is an effective way to quickly review and reinforce procedures, work instructions, JMS, JSA and responsibilities.

Here are five fundamentals every toolbox talk should have:



Brief:

An effective TBT Should be 10-15 Minutes long and is a key safety interaction between the supervisor and their workers.



Relevant:

The TBT must reflect the hazards and risk that the workers will be exposed to during the course of the shift.



Clear:

At the start of the TBT it should be made clear what the topic is going to be and the supervisor should ensure the message is received by all their workers.



Understood:

If any one unclear about any of the hazards or risks that they will be going to working with they **MUST** speak to their supervisor before the work task.



Recorded:

Every TBT should be recorded by the supervisor who is given the talk and everyone who attended must sign the attendance sheet to verify their understanding on it.

Reporting and Investigation

Contractor employees shall immediately report any incidents, accidents, injuries, near misses, and hazard observations to the Emirates Steel Process Owner / Area Supervisor / Contract Focal Point / mySHEQ. Contractors should actively encourage all their employees to report Near misses, Hazard Observations without fear of consequence. The Contractor shall participate in incident investigations conducted by Emirates Steel when required. All incidents shall be reported on emergency hotline number 025073000 without any delay.

Whenever you see an unsafe act, you must immediately STOP the Work and report it through mySHEQ.

By taking action before any incident, you are helping your co-workers to go home safely to their families.

Smoking

Smoking is not permitted on site other than in the designated smoking area. Smoking is not allowed in any indoor working environment (e.g. Offices-Including single occupancy offices, meeting rooms, warehouse buildings and workshops), including toilets and vehicles (private or company). Any outdoor worksite where a potential flammability hazard exists. Indoor seating areas of canteens, rest rooms, substations, electrical rooms, storage rooms and inside vehicles. Smoke only in designated areas where designated smoking area signage is displayed.

Alcohol and Drugs

Contractors must ensure that no employee is under the influence of an intoxicant while at work to the point where the intoxication endangers their own safety and the safety of others. Anyone found working under the influence of any intoxicating substance will be removed from the site immediately and may face legal/ disciplinary action. Emirates Steel Security team will conduct the alcohol test on random basis for the suspected employees and such issues shall be reported to Abu Dhabi Police for further actions.

Housekeeping

Contractors shall always keep the job site (and adjoining premises, driveways, and walkways) clean and free from accumulated debris, trash and rubbish. At the job's conclusion, the Contractor shall remove all remaining materials, supplies, and junk and leave the area clean and ready for use. All the waste materials generated from the work need to be disposed of as per the disposal procedure applicable. The hazardous waste material to be separated and to be discussed with ES in charge person for the disposal procedure. Contractor employees are not allowed to interfere with any material or tools in the plant area that may affect the plant's operation or machinery. All Contractor employees are to be briefed about the housekeeping rules applicable. Contractors shall fully adhere to the 5S strategy of ES and conduct regular 5S audits for their work area.

Control of Work

The Contractor shall ensure they eliminate or control workplace hazards as far as possible and take satisfactory measures to reduce risk to an acceptable level where the risk of injury or damage is unlikely. When a contractor is unclear on mitigating risk, they should seek support from the Emirates Steel end-user or FCA.

Scope of Work

Emirates Steel shall provide the Contractor with a Scope of Work at the Invitation to Bid stage, which shall include a complete and explicit declaration of:

- Description and specifications of the work/activity required of the Contractor
- Safety performance expectations and behaviours required of the Contractors to be engaged. Specific risks, hazards, and risk mitigation requirements (Safety Plans, Job Safety Analyses (JSAs), Job Method Statements (JMSs), etc., to be submitted by the Contractor) associated with the execution of the required service.
- Specific competencies, experience, and skills (as appropriate) required from the Contractor personnel to be engaged

H&S Plans

Based on the above Scope of Work and a subsequent visit to the proposed Emirates Steel worksite, Contractors shall include an H&S Plan for the execution of the required work in their bid submission. Emirates Steel will review the H&S Plan integral to their bid evaluation and Contractor Selection processes. A detailed project specific plan shall be submitted by the contractor after awarding the project for ES review.

Permit to Work (PTW)

All physical routine and non-routine work/activity to be carried out by all Contractors engaged by Emirates Steel shall be subject to the control processes detailed in the Emirates Steel Permit to Work Procedure (HSD-GR-PR-003). The Contractor needs to take into consideration that the general Permit to Work Procedure provides for the following (figure shows) types of Permits:

Cold Work Permit (HSD-GR-FM-001)

Confined Space Entry Work Permit (HSD-GR-FM-002)

Hot Work Permit (HSD-GR-FM-003)

Excavation Work Permit (HSD-GR-FM-053)

Permit to work on Live or Energized Equipment (HSD-GR-FM-093)

Contractors shall fully familiarize themselves appropriately with all these procedures, together with their related requirements, including the associated Contractor-related accountabilities and responsibilities.

Hazard Identification and Risk Assessment

Before the commencement of any activity inside ES, the contractors shall prepare a job method statement and conduct a suitable and sufficient Risk assessment (JSA) specific to the task going to be performed. The prepared JSA and JMS shall be sent to ES concerning personnel/department at least 48 hours prior to the start of the activity for review and approval. The approved JSA and JMS must be communicated effectively to all workers before work commences and ensure all the risk control measures are effectively implemented during the activity.

The Risk Management process is divided into five steps;



Identify the Hazards



Identify who is at risk or what can be damaged and how



Evaluavate the risk and identify any additional control measures necessary to reduce the risk to as low as reasonable practicable (ALARP)



Implement the Control Measures in the work place



Monitor and Review the effectiveness of the control measures

Loading and Unloading of Materials

Contractors shall ensure that all material handling and lifting, whether manual or mechanical, must be completed safely.

- The loads shall be adequately secured while transporting the materials.
- Any materials that overhang any vehicle's sides or ends must be clearly marked as an obstruction according to the statutory traffic rules.
- Load must not be hauled from a single suspension cable that allows free swinging beyond the sides of the truck or crane.
- Dragging or skidding of materials and objects on the road is prohibited.
- All unloaded materials shall not present any hazard to people or traffic or obstruct access for any plant operational access and emergency vehicles.
- Ensure proper risk assessment is carried out for the activity.

Vehicles, Plant and Mobile Equipment

Contractor vehicles and mobile equipment used inside the ES premises must be well maintained and in safe operating condition.

- A competent person must ONLY operate all vehicles and mobile equipment.
- All vehicles shall be fitted with an audible reversing alarm.
- Riding on equipment with operators is strictly prohibited.
- All equipment shall be safe and in working order with; switches; alarms; safety devices; hoses; fittings; parts etc., as necessary, and be in safe working condition.
- All mobile equipment warranting; inspection certificates, operating licenses, and fitness certificates must have copies of the necessary documentation before they commence any journey or work activity.
- All equipment must be shut down and secured at the end of the shift or during the operator's absence.
- Periodic inspections shall be conducted on all equipment.
- Ensure proper risk assessment is carried out for the activity.

Confined Space Entry

Contractors wishing to enter a confined space shall only do so under the direction of an authorized Emirates Steel person and must have confined space entry permit. All contractor persons (including Emirates Steel personnel) must have received training (competency) in a confined space. This training must have included, as a minimum:

- Principles of Confined Space Hazards
- Awareness of Confined Space Risk Assessments
- Principles of a Permit to Work System
- Use equipment and tools safely and in accordance with manufacturers' instructions.
- Understand and demonstrate the duties of the Safety Attendant.
- Understanding the principles of Confined Space Communications (methods, types, and limitations).
- Understanding the principles of ventilation (methods, types, limitations).
- Prepare and use emergency escape breathing apparatus in accordance with manufacturers' specifications.
- Understanding the gas monitor uses and acceptable limits of oxygen, H₂S, CO & LEL.
- Follow safe work procedures and work safely.
- Prepare to enter, work and exit a Confined Space safely.
- Principles of Confined Space Hygiene

Eliminate hazards and control risks by implementing safety precautions in confined space with:



**Entry
Procedures**



**Protective
equipment**



Rescure plan



**Risk
Assessment**

Demonstrate an understanding of Confined Space Emergencies and how to deal with them. Training shall be provided by a competent third party agency approved by ADOSH & Abu Dhabi Relevant Regulatory bodies.

Evidence of the confined spaces training provided including certificates must be produced from a third-party training provider.

The Contractor is responsible for the provision of all emergency resources including certified rescue personnel, rescue equipment, and rescue plans.

All rescue personnel identified in the rescue plan shall be certified by the third-party agency and shall be available full time outside the confined space along with the rescue equipment's as defined in the rescue plan. The Contractor shall submit the rescue plan to ES for review and approvals.





Working at Height

When it is necessary for Contractor/Sub-Contractor employees (or anybody else) to work at the height of 2m or above, fall protection equipment shall be worn. All work of this nature shall be compliant with the Emirates Steel Working at Height Procedure. Where fall protection equipment is worn, the Contractor shall provide sufficient resources for rescue and a rescue plan. Before starting the activity, a work at Height Activity Assessment Checklist HSD-GR- FM-114 must be duly filled and made available at the site along with the permit to work issued for the specific activity.



Note:

1. It is not mandatory to wear a full body harness while working on any platform (portable or temporary working platforms below 2-meter height) provided with standard railing systems such as top rail, mid-rail and toe boards. The requirement of the full-body harness is subjected to the job requirement and the risk assessment. The use of a full-body harness in these conditions shall be determined as part of the risk assessment associated with the specific activity.
2. It is not mandatory to wear a full body harness while working on any permanent platform at any heights provided with standard railing systems such as top rail, mid- rail and toe boards. The requirement of the full-body harness is subjected to the job requirement and the risk assessment. If the job involves pulling, pushing or it has been identified that the full body harness is needed in order to rescue the employees as part of rescue plan or any other activities which have the potential to cause repulsion force then people required to wear the full-body harness with 100% tie-off. The use of a full-body harness in these conditions shall be determined as part of the risk assessment associated with the specific activity.

Work at height third party training is mandatory for all the employees. Where training is provided for safe working at height, the training shall cover as a minimum;

- Types of fall protection equipment
- Fall hazards associated with the work to be completed
- Procedures for the removal of fall protection devices from service for repair or replacement
- Fall protection equipment identification methods
- Equipment maintenance and inspection requirements
- Emergency rescue procedures
- Practical and theoretical training on the actions to be taken in an emergency including rescue from height
- Suspension trauma
- Equipment strengths and weight limitations

The Provision of rescue equipment, rescue plan and resources are mandatory. Ensure rescue plan submitted to ES for review and approvals. Contractor to ensure stand by manlift available full time near the job location while working at height using the manlift.

Safe Use of Scaffolding Ladder and Stairways

DO NOT use scaffolds or ladders if they are unsafe and you are unaware of their risks.

Scaffold Erection, Alternation and Dismantling:

- Trained and competent scaffolders under the supervision of the scaffolding supervisor/foreman shall only undertake the erection, alternation, and dismantling of the scaffolding.
- Scaffolds above 10 meters and special scaffolds (i.e., load bearing, suspended, Free standing scaffolds and cantilever) shall be erected, altered, used and dismantled in accordance with the design drawing. A competent engineer must prepare the design drawing after visiting the site.
- The Contractor shall obtain an appropriate work permit as per (HSD-GR-PR-003) before commencing the work (including mobilization & demobilisation of materials as per scaffolding procedure).
- The area must be properly barricaded during the erection, alternation, and dismantling of the scaffolding along with the sign boards.
- Proper means of lifting devices (third-party certified) must be used for transferring and lowering materials from higher elevations (e.g. Lifting bags, pulleys and ropes)
- Appropriate fall protection devices must be used at all times.
- Follow ES Scaffolding Safety procedure (HSD-GR-PR-011) all the time.



Wooden planks should not be used in SMPs or plant locations where there is a risk of molten metal splashes or fire hazards. In such instances, only metal planks should be used for the entire scaffold platform, including the toe-boards.

Inspection and Tagging:

- All Scaffolds will be tagged showing the date of erection and inspected (by a certified, competent inspector) every 7 days.

- Suppose an engineer has prepared design drawings. In that case, the engineer shall inspect the scaffolding on site and provide a sign-off certificate against the scaffold design drawings prior to use.
- All scaffolds shall be reinspected after any modifications, adverse weather condition or any incident.
- Follow ES Scaffolding Safety procedure (HSD-GR-PR-011) all the time.



General Ladder Safety

There are several safety points to consider before you use any ladder, including:

- Ensure the ladder footing is safe to support it.
- The ladder's base should be placed away from the wall at a distance of about of the ladder's working length.
- The top of the ladder should extend at least 1m or 3 rungs above the landing area.
- Always ascend and descend the ladder with 3 points of contact.
- Never carry equipment or tools when using the ladder.
- A competent person shall inspect ladders at intervals not greater than 6 months. Each ladder shall be marked with an identification number and the date of its last inspection.
- Any ladder found defective in any way shall be removed from Emirates Steel premises



Stairway Safety

There are some basic safety rules to consider and follow before the use of any stairways:

- Always hold handrails while ascending and descending from the stairways
- Try to avoid carrying equipment or tools when using the Stairway
- Look out for any spills or rubbish lying on the Stairway
- In an emergency, never run down the Stairway
- Avoid distractions like reading documents or looking at your cell phone

Lifting Safety

The Contractor shall ensure that all lifting tackles, lifting appliances, mobile work platforms, and hoists under his control have up-to-date certification. Prior to their use in Emirates Steel premises, the Contractor shall provide copies of test certificates to the end user Department. No person (Contractor, Sub-Contractor, or anybody else) shall be permitted to operate a lifting device (material or personnel) unless they are adequately trained. Documentation of the training shall be furnished to Emirates Steel upon request. Each operator shall carry on his/her personal certification that validates their ability to operate the lifting device being used.

Refer following ES procedure to ensure safety lifting.

- HSD-GR-PR-024 Safe use of Lifting Equipment and Lifting Accessories
- HSD-GR-PR-037 Safe use of Mobile Cranes

Mechanical Lifting

In general, All contractors have to ensure that safe lifting would entail many safety control measures including, but not limited to;

- Obtaining a Permit to Work in lifting operations



- Prepare a lifting plan for all the activities and approve it by the ES lifting-appointed personnel before starting the job. Competent Lifting supervisor shall be deployed.
- Barricading the lifting area to prevent unauthorized entry where the lifting occurs.
- Preventing any person from walking under a suspended load for any reason.
- Ensuring that the lifting device; Crane; Forklift; Tele-handler is certified and can lift the load safely.
- Only a trained banksman/rigger should give signals to the operator.
- Tag lines should be used to control all loads.
- Never leave a suspended load unattended.
- If the lift is complicated or awkward, always seek the advice of a Rigger before starting the lift.
- Never lift any load if you are;
 - Unsure of the weight of the load
 - Do not have the correct equipment.
 - Unsure if you can control the lifting and landing areas throughout the lift.



Manual Lifting

Contractors ensure that the following factors shall be considered before manual lifting.

When manually lifting any object, there are 4 questions to ask yourself:



Task

Is the item being pushed, pulled, lifted, carried, and/ or lowered.



Individual

Is the person capable of carrying out the task



Load

Is the shape, size, weight, and surface type suitable and safe.



Environment

Is the route clear, suitable, and safe

The right way to manually lift safely is to seek assistance if the load is too heavy. When lifting, consider bending at the knees, keep your back straight, and do not twist at the waist. DO NOT lift any object weighing over 25 kg by yourself.

Safe Energy Isolation

All contractors shall ensure that, before any work or maintenance is performed on any machine, equipment, tool, or electrical system, they must safely provide de-energization to remove any potential source of energy or power that may present a hazard during the work activity

Energy comes in many forms, including; electrical energy; mechanical energy; pneumatic energy; hydraulic energy; stored energy; thermal energy, heat and cold. Unidentified energy sources present real hazards to anyone where the isolation occurs. All contractors to strictly follow ES Energy and Utility Isolation Procedure (EGD-GR-PR-003).

All energy isolation work for ES will be performed under a Permit to Work. Proper energy isolation shall be carried out by using lock out, tag out and try out of an energy source. Contractors shall ensure complete energy isolation work within the ES; then, there are many basic safety rules to follow, including;

- Identify potential energy sources through a risk assessment.
- Safely de-energize all energy sources that may present a hazard to you.
- After isolation is applied, a "try-out" test must be carried out by the relevant agencies who applied the isolation (electrical, mechanical, process) according to the energies being isolated to verify zero energy has been achieved
- Any person potentially at risk of contact with hazardous energy sources may also verify the "try-out" or test for zero energy status before commencing work.
- Lock out any equipment controls that may be inadvertently activated, putting you in danger during work, and hold the key with you.
- Unlock controls and complete the re-energization process in a controlled and safe manner. (i.e. if the equipment has to be re-energized for functional testing, risk assessment (JSA) must be carried out and a new Permit issued for Work on Live or Energized Equipment (HSD-GR-FM-093), provided that risks are effectively controlled.
- Complete any documentation and report to your concerned Supervisor (ES) for the energy isolation completion process.

During energy isolation, always ensure:

LOCK OUT TAG OUT always



Safe Handling of Chemicals

The handling of any chemicals for any work activity presents a hazard to workers and must be controlled at all times. All chemical substances should arrive with an SDS (safety data sheet) and the copy of safety data sheet shall be available at the site.

All contractors must ensure that chemicals used in their contractual job requirements are managed in accordance with the provisions of the ES procedure (Chemical safety - HAZCOM procedure, HSD-GR-PR-029) and applicable regulatory requirements.

Safety Data Sheet (SDS)

The SDS contains 16 points of important information about the substance. Sections covering information fall into two broad categories:

1. Basic product information includes The identification of the product and its supplier and physical-chemical properties.
2. Summary of toxicological and ecotoxicological information. This is used to identify HSE Hazards and forms the basis for the other sections.

Contents of SDS are shown in the figure;

1) Identification <ul style="list-style-type: none"> Product identifier Other means of identification Recommended use Restrictions on use Name, full address and phone numbers of manufacturer, importer or other responsible party Emergency telephone number 	7) Handling and Storage <ul style="list-style-type: none"> Precautions for safe handling Conditions for safe storage (including incompatible materials) 	12) Ecological Information (Non-Mandatory) <ul style="list-style-type: none"> Ecotoxicity Persistence and degradability Bio-accumulative potential Mobility in soil Other adverse effects
2) Hazard(s) Identification <ul style="list-style-type: none"> Classification of the Chemical Signal word, Hazard Statement, Pictogram(s) Precautionary statement(s) 	8) Exposure Controls / Personal Protection <ul style="list-style-type: none"> Control parameters, including occupational exposure guidelines or biological exposure limits and the source of these values Appropriate engineering controls Individual protection measures (e.g. personal protective equipment) 	13) Disposal Consideration (Non-Mandatory) <ul style="list-style-type: none"> Information on safe handling for disposal and methods of disposal, including any contaminated packaging
3) Composition / Information on ingredients <p>For Substances</p> <ul style="list-style-type: none"> Chemical Name Common Name and Synonyms Chemical Abstracts service (CAS) number and other unique identifiers <p>For mixtures (in addition to required substance information)</p> <ul style="list-style-type: none"> The chemical Name and concentration or concentration ranges of all ingredients which are classified as health hazards <p>Note: Confidential business information rules can apply</p>	9) Physical and Chemical Properties <ul style="list-style-type: none"> Appearance (color, state, odor, etc.) Odor Color (freeion) pH Melting point/freezing point Initial boiling point/boiling range Flash point Evaporation rate Flammability (solid, gas) Lower flammability/oxidative limit Upper flammability/oxidative limit Vapor pressure Vapor density Relative density Solubility Partition coefficient - n-octanol/water Auto ignition temperature Decomposition temperature Viscosity 	14) Transport Information (Non-Mandatory) <ul style="list-style-type: none"> UN number UN proper shipping name Transport hazard class(es) Packing group Environmental hazards Transport in bulk, if applicable Special precautions
4) First Aid Measures <p>First Aid measures by route of exposure</p> <ul style="list-style-type: none"> Inhalation Skin Contact Eye Contact Ingestion <p>Most important symptoms and effects (acute or delayed)</p> <p>Immediate medical attention and special treatment, if necessary</p>	10) Stability and Reactivity <ul style="list-style-type: none"> Reactivity Chemical stability Possibility of hazardous reactions Conditions to avoid (e.g., static discharge, shock, or vibration) Incompatible materials Hazardous decomposition products 	15) Regulatory Information (Non-Mandatory) <ul style="list-style-type: none"> Safety, health and environmental regulations specific to the product
5) Fire Fighting Measures <ul style="list-style-type: none"> Suitable extinguishing media Unsuitable extinguishing media Specific hazards arising from the hazardous product (e.g., hazardous combustion products) Special protective equipment and procedures for fire-fighters 	11) Toxicological Information <p>Excerpt(s) of various toxicological (death effects) and irritative data</p>	16) Others <ul style="list-style-type: none"> Date of the latest revision of the MSDS
6) Accidental Release Procedures <ul style="list-style-type: none"> Personal precautions, protective equipment and emergency procedures Methods and materials for containment and cleaning up 	12) Toxicological Information <ul style="list-style-type: none"> Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact) Symptoms related to the physical, chemical and toxicological characteristics Delayed and immediate effects, and chronic effects from short term and long term exposure Numerical measures of toxicity, including acute toxicity estimates (ATEs) 	



Hot Work Safety

Hot work is seen as any activity which has the potential to produce a source of ignition into the work site and includes activities such as; gas cutting, welding, and grinding. Hot work also exposes workers to various hazards, including; flammable gases; hot surfaces; radiation; flying, and ejected debris. Therefore, only trained and competent people should carry out these activities using safe and, where necessary certified equipment in a safe and controlled environment. All hot work activities shall be carried out as per the ES Hot Work Procedure (HSD-GR-PR-016).

Contractors shall ensure that A Permit to Work is mandatory for all work with a potential source of sparks or naked flames, or open flames i.e., hot works

A simple checklist for Hot Work safety controls includes;

- Hot work should be authorized by area management.
- Hot work should only be undertaken in designated Hot work areas
- Remove all flammable materials out of the line of fire

General requirements for the hot work include the following but are not limited to;



Inspect all equipment prior to use



Shall protect any combustibile materials with fire retardant blankets that cannot be moved from close contact with the flame, heat, sparks or hot slag.



Items such as welding leads and gas hoses should be laid out safely, ensuring they are not exposed to potential hazards such as vehicles and sharp edges. Their length should be the minimum safe distance from the work site as possible.



For the Hot Work, a trained 'Firewatcher' should be in place to monitor activity and equipped with sufficient fire-fighting equipment to defeat any fire that occurs swiftly and safely.



Remove any combustibile materials within 10 meters of the work.



All welding return current leads should be clamped securely as close as possible to the weld spot and should not present a tripping hazard to any worker.



Ensure that Flashback Arrestors are fitted at both the torch and the Cylinder or Regulator.



Ensure that the work area is monitored for a minimum of TWO hours beyond the completion of the hot work to ensure there are no smoldering embers that could result in a fire spread. This should be documented on the hot work permit.



Adequate ventilation around welding flame cutting should be maintained and monitored throughout the Hot Work activity.



Any equipment found to be damaged, such as; cables; hoses; regulators; cylinders; must be replaced immediately.



Master valves on Oxygen and fuel gas cylinders should be closed, and all remaining pressurized gases safely bled from regulators and hoses. Do not keep gas cylinders inside the confined space.



On completion of works, the Supervisor should ensure that all potential ignition sources, such as hot slag or molten materials, are safely removed from the work area.



All workers shall, at all times, wear the correct appropriate PPE and RPE for the duration of the work.

Fire Safety

Fire presents a real hazard to people; equipment; buildings; and the environment. As such the opportunity for a fire to occur must be managed at all times.

Hazards of Fire

- Burns
- Death
- Property Damage

Causes of Fire

- Electricity
- Poor Housekeeping
- Hot works
- Chemical Substances
- Direct Heat

Basic Fire Safety

It is important to control the risk of fire. Simple control measures to prevent a fire include;



Maintain good housekeeping standards in all the worksites



Know what to do in the event of the fire alarm sounding and the safest exit route you are in.



Do not mix flammable materials



NEVER return to building/ worksite to take personal belongings in the event of a fire emergency



Inspect the wiring and insulations frequently



Use, store, and transfer flammable materials in a safe manner



Avoid using solvents such as gasoline for cleaning purposes



Know the location of fire-fighting equipment



Report any leak flammable material immediately report any fire safety violations to HSE



Smoke only in designated smoking areas
Safely dispose of all cigarette waste.

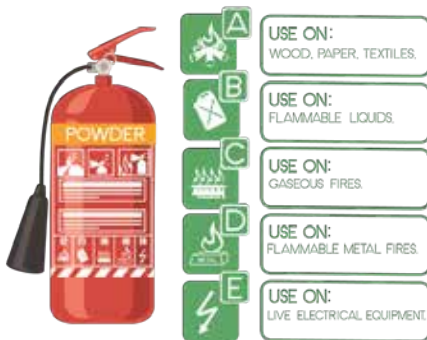
Classification of Fire and Fire Extinguishers

The classification of fire;

Classification	Example
Class A (Combustible Materials)	Wood, Paper, Cloth, Rubber and Plastics
Class B (Flammable Liquids)	Petrol, Kerosene, Paint etc.
Class C (Flammable Gases)	Methane, Butane etc.
Class D (Metals)	Magnesium, Lithium, Titanium etc.
Class K (Cooking Media)	Cooking Oils and Fats

Fire Extinguisher Selection

Powder



Water



Foam



CO₂



Safe Operation of a Fire Extinguisher

There are 4 basic steps to the safe operation of a Fire Extinguisher which are;



P

PULL the Pin



A

AIM low, point the nozzle or hose at the base of fire



S

SQUEEZE the handle to release the extinguishing agent



S

SWEEP from side to side at the base of the fire

Electrical Safety

All sources of electricity can be dangerous to workers, and all electrical energizations must be completed in accordance with Electrical Safety Rules which will normally include raising a Permit to Work and energy isolation activity involving 'Lock Out Tag Out' and 'Try Out' (LOTOTO). Trained competent people must ONLY undertake all works on all electrical equipment.

Contractors shall ensure that necessary precautions are taken when working near the sources of electricity.



Electrical Safety at Work site

Basic Safety Rules to be followed.

Everyone on the work site is at risk

Electrical currents can cause shocks, fires, explosions, burns, falls which can be cause serious injury or fatality.

Most electrical accidents result from one of the following three factors:

- Unsafe equipment or installation
- Unsafe Environment or
- Unsafe work practices

Controlling Hazards

- Check your extension cords and plugs: Never use any damaged/exposed cords and plugs
- Do not overload circuits
- Check your Ground Fault Circuit Interrupter: (GFCI) outlet to ensure its proper operation with an approved tester.
- Check your tools and equipment for damaged cords, missing ground pin and exposed wires
- Extension Cords: Should be placed where they will not get damaged
- De energize circuits: Use effective lock out, tag out procedures
- Improper Grounding: Ensure proper earthing is provided where required
- Test all circuits: to ensure the absence of voltage with the proper meter.
- Temporary Lighting/Connections: All cables to be routed in a safe manner.
- Stay Dry: Wet conditions standing in water, wearing wet clothing, working in high humidity, perspiring can increase electrocution risk. Never trail electrical cable through water
- De energize circuits: Use effective lock out, tag out procedures
- Electrical Panels: Keep access to electrical panels and controls, never leave a panel cover open, ensure access is free from obstructions.
- Stay clear form overhead lines

Safe Use of Hand and Powered Tool Safety

Both hand and self-powered tools present a hazard to workers using them and in the vicinity where some of them are being used. They should be kept in good condition and inspected for damage before use. If you are unsure if the tool is safe, speak to HSE for advice. There are a number of different categories of these tools to consider, including;

Portable Power Tools

Contractors shall ensure that portable electrical tools and measuring instruments have valid calibration certificates and are maintained in good condition. All electrical tools shall be physically inspected for condition and integrity prior to use at the worksite. Electrical tools shall be periodically checked, and records of these inspections shall be maintained. Do not connect portable power tools in the ES sockets until approval from the ES electrical department to ensure capacity of the power socket in line with the requirement of power tools.



The Contractor shall retain the services of a competent, qualified electrician to inspect and tag electrical power hand tools, transformers, distribution boards, extension cables, etc.



All electrical leads must be connected to the power source through standard industrial waterproofed plugs and sockets (Industrial Type), which shall be in good condition.



If any defects are identified, the tool shall be removed from service, and tagged (not to be used).



When using portable electrical tools on small workpieces inside a workshop, the workpieces shall be suitably secured to the workbench using a vice or clamps, and the working surface should be clean and dry.



Use the right tool for the job: Double-insulated tools shall be used. Power tools and associated implements shall be used only for the specific purpose they were designed. (Do not improvise with the wrong tools or handmade power tools).



Portable electrical tools shall only be operated by personnel with the necessary knowledge, experience and skill to operate them safely as per Manufacturer Guidelines, Method Statement, and Risk Assessment.



Power tools, such as Grinding machines, have to be fitted with "Deadman switch" trigger (auto cut-off).



Tools shall always be transported from one work location to another (when required), in adequate containers so as not to endanger the safety of other personnel available in the area.



Wear Appropriate personal protective equipment

Sharp-edged and sharp-pointed power tools shall not be handled as follows:

- Thrown from person to person.
- Be used in close proximity to others (e.g. a slip of the tool may injure someone not involved in the task).
- Be used in close proximity to moving machinery without proper precautions being considered.
- Not be left lying around where personnel have to pass (especially on elevated work platforms where they might fall on persons below).
- Only insulated or non-conductive tools shall be used on or near live electrical equipment, where there is a risk of electrical shock.

Storage of Power tools

- Prior to storage, power tools shall be electrically de-energized, switched on the safe mode, and packed safely according to manufacturer instructions.
- Sharp power tools shall be stored with their blades/edges protected or be placed in a safe position to avoid accidental contact or falling onto personnel.
- Power Tools shall be kept clean and free from moisture and chemicals and, where necessary, lightly oiled to prevent damage and corrosion.
- Prior to storing, power tools shall be regularly inspected for defects and, where necessary, repaired or disposed of. Only safe and good condition tools shall be stored for use.

Hand Tools

- All hand tools shall be adequately maintained, and any defective or improper tool shall not be used for carrying out the work. The tools shall be kept clean and protected against corrosion and damage. Any moving or adjustable part shall be lubricated regularly to prevent wear, misalignment, and undesirable stiffness. Any cutting edges shall be kept sharp but protected from accidental damage or harm.
- Any damaged or worn-out tools shall not be used; similarly, the use of temporarily repaired or makeshift tools is not permissible. The hand tools, which cannot be repaired, shall be withdrawn from service. The correct tool in respect of size, weight, and duty should be used to perform a job.
- The tool handles shall be tightly fitted, and any wooden handle shall be checked and tightened with wedges if required. Most hand tools are good conductors of electricity, and extreme caution shall be taken while working around electrical circuits.
- The hand tool, which is properly insulated, duly rated, and certified for electrical work, shall be used if working with electrical circuits.

Basic safety rules can help prevent hazards associated with the use of hand tools



Keep tools in
Good Condition



Tools to be inspected
regularly and safe
practices to be followed



Do not use
damaged tools



Use the correct personal
protective equipment



Use the right
tool for the job

Heat Stress

When the body cannot cool itself by sweating, several heat-induced illnesses, such as heat stress or heat exhaustion and more severe heat stroke, can occur and even result in death

Primary factors contributing to heat stress



Environment

Air temperature, Humidity, Heat.



Individual

Dehydration, clothing, medical conditions, acclimatization (how your body copes with the hot environment)



Work Load

The amount of work done under sun heat or temperatures

Contractors shall ensure that a proper heat stress management program is in place to protect employees from heat-related illness, especially during summer. The heat-related basic safety rules to be followed;

Heat stress can lead to a range of heat-induced conditions (from minor to very grave)



Heat Rash



Heat Cramps



Heat Syncope



Heat Exhaustion



Heat Stroke

Working Safety in Heat



Ensure your body rests by getting enough sleep



Avoid drinks with large amount of sugar



Drink Enough Water everyday



Eat Fruits and vegetables



Check urine color, it should be pale yellow



Take small breaks whenever possible



Add a little extra salt to your meals



When unwell, inform your supervisor

The following necessary precautionary measures to follow to avoid heat-related illnesses



Implement the heat stress management program:

Include safe work practices and emergency procedures .



Allow workers to acclimatize:

Identify which workers are acclimatized or assessed as fit to work in hot conditions.



Increase Air circulation:

Identify which workers are acclimatized or assessed as fit to work in hot conditions.



Provide Awareness Training to employees

Ensure the workers know the risk of heat stress associated with their work and understand the symptoms to look out for.



Reduce exposure to hot work environments:

Mid-day break work rules shall be followed.



Prevent Dehydration:

Provision of adequate electrolytes, availability of drinking water (encourage workers to drink adequate quantity of water at frequent intervals)



Provide frequent rest breaks:

During extremely hot conditions, provide frequent breaks, and work rotations with access to cool areas in the shade or an air-conditioned area or vehicle



Monitoring the health of workers

Check those who are most at risk to heat stress due to the nature of their job or because of an illness, condition or medication



Supervision:

Proper supervision shall be in place to ensure that they do not allow employees to work alone



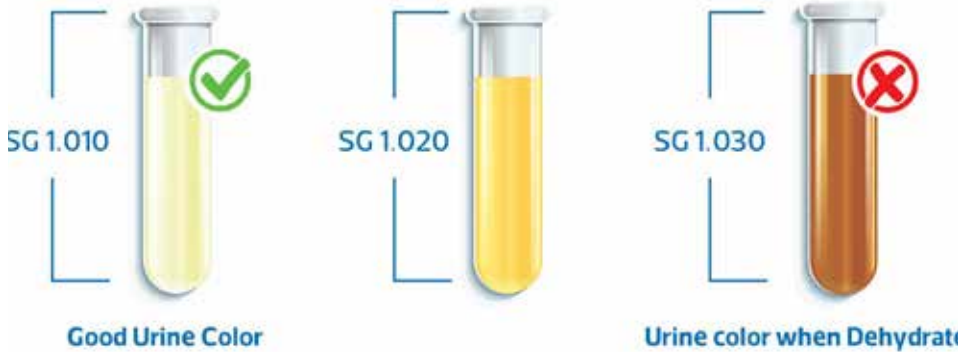
Report an Emergency:

Report any symptoms of heat illness suffered by self or a fellow employee to the Supervisor immediately.



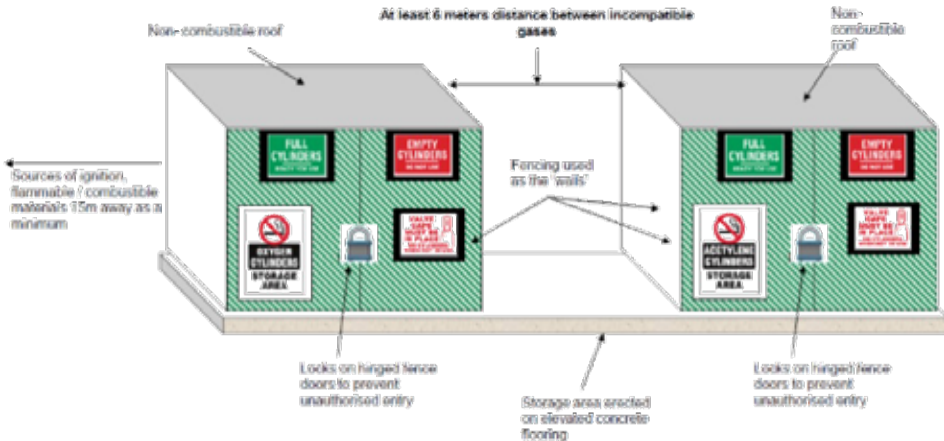
Call ES emergency hotline number 02-5073000 if any medical intervention is required.

Self asses using the urine chart: Drink Enough Water



Compressed Gas Cylinder Safety

All contractors are ensuring to apply the following minimum precautions for the safe storage, handling, and use of compressed gas cylinders. Refer ES Use of Compressed Gases and Air Procedure (HSD-GR-PR-046).



Safe use of compressed gas cylinders;

Use Equipment Designed for Moving cylinders and containers

- ❗ Do not drag, drop, or roll cylinders or containers nor lift containers by valve protection.
- ✅ When moving cylinders or containers, make sure valves are closed, valve protection is in place, and the cylinder or container is properly secured and moved in the up-right, valve-up position.




Secure cylinders and containers when being used or stored

- ❗ An unsecured cylinder or container can roll or fall, leading to injury, equipment damage, or uncontrolled product release.
- ✅ Secure cylinders and containers with a chain, strap, rack or another suitable device. All gas cylinders must always be in a vertical position. The contents of the gas cylinder must be labelled on every cylinder.
- ✅ Do not store incompatible gases together. Flammable Gas and Oxygen should be stored at least 6 meters distance.
- ✅ Store and use with the valve up to ensure proper operation of valve and relief devices.
- ✅ Use valve protection for cylinders not in use.





Use the correct valve outlet connection

- ❗ Use of adaptors or faulty valve outlet connections can result in a dangerous connection leading to injury, equipment damage, or uncontrolled product release. Connections that do not fit shall not be forced on.
- ✅ Ensure required flashback arrestors and non-return check valves are fitted at the gas cylinders, and the torch ends.





Connect all equipment before the opening valve

-  The sudden release of the product can cause serious injury or equipment damage.
-  Connect all equipment, point the valve outlet away from the personnel and open the valve very slowly.
-  Check for leaks

Refilling, Inspection and maintenance

-  Refilling of cylinders and containers can result in over-pressurization, leading to a catastrophic failure in the system
-  Refilling shall only be performed by the manufacturer / approved service agent.
-  Gas cylinders shall be hydrostatically tested at a minimum every five years, which a qualified testing facility shall conduct. The test date shall be stamped onto the cylinder each time the cylinder is tested.
-  Cylinders in use are allowed to exceed the five-year limit but shall be tested prior to refilling or before the sixth (6th) year, whichever is sooner.

Immediately Notify any equipment issues, damages, or leaks.

-  Never attempt to repair or alter cylinders, valves, or attachments. This shall be done only by the manufacturer / approved service agent.
-  If a leak occurs in a fuel gas cylinder, it shall be taken out of use immediately. The valve shall be closed, and the cylinder taken outdoors well away from any ignition source.
-  The cylinder shall be tagged (Do Not Use, No Smoking, No Ignition Source) and the supplier notified
-  A regulator attached to the valve may be used temporarily to stop a leak through the valve seat.

Radiation Safety

A key concept underlying radiation protection programs is keeping each worker's occupational radiation dose As Low as Reasonably Practicable.

- Only certified workers can perform work involving ionizing radiation.
- Perform work under the control of a licensed Radiation Protection Officer (RPO) approved by the ES EH&S Department.
- Perform activities involving radioactive sources with approved work permits and within controlled areas where barricades and warning signs are installed.
- Complete training in the safe use and handling of ionizing radiation sources.
- Use PPE and personal monitoring equipment while using/handling ionizing radiation equipment.
- Periodically calibrate radiation monitoring and survey equipment according to the FANR requirements.
- Disposal process of radioactive waste as per ES and FANR regulations and standards.
- Survey radiation sources before and after their use or movement.
- Provide security measures to prevent the loss or theft of radiation sources from shielded storage rooms/ facilities.
- Maintain Emirates Steel requirements regarding shielding, penetrations, monitoring, safety interlocks, warning signs, etc., for radiation-emitting equipment.
- Limit access to authorized personnel only when operating radiation equipment or during source exposure in rooms/facilities

NEVER use defective equipment or PPE when working with radiation sources



Limit time spent near radiation sources to reduce exposure



Maintain safe distance from radiation sources



Always use appropriate shielding to protect yourself from radiation exposure

Road Safety

All drivers and passengers of contractors driving inside Emirates Steel premises must adhere to road safety rules and regulations at all times.



Possess a valid driving license



Do not stop vehicles in the middle of the road for any reasons



Always fasten your seat belt



Safely park the vehicle. No parking on walkways or crossings



Always ensure your vehicle is in good condition. Use an inspection checklist



Do not use mobile phones while driving



Observe the speed limit at all times. (maximum allowed speed limit is 20 Km/h)



No overtaking allowed the Emirates Steel premises



Never drive whilst under the influence of alcohol and drugs



Beware of pedestrians and give way



Maintain a safe distance between the vehicles



Avoid crowding for boarding; All contractors shall follow safe bus boarding practices.

Bicycle / Tricycle & Pedestrian Safety:

Use of bicycle & tricycle are strictly prohibited inside the Emirates Steel. All contractors are requested to ensure proper transportations are provided for employee's movement inside the Emirates Steel. Employees shall not walk on the road where traffic movement and ensure all employees are using the designated walkways and pedestrian crossing. Movement should be restricted to designated walkways and pedestrian crossings only. Contractors are responsible for ensuring the safety of their employees by providing proper transportation and ensuring strict compliance with pedestrian safety rules. Always use marked pedestrian crossings when crossing roads. Avoid crossing at undesignated areas to prevent accidents and avoid distractions such as using mobile phones or headphones while walking. Stay focused on your surroundings, especially in busy areas.



- Drivers must give way to the pedestrians at designated crossing points and wait until they have completely crossed the road.
- Access to high risk vehicle maneuvering areas is restricted.
- Use only pedestrian routes wherever available.
- Do not get too close to the traffic. If there is no pavement, keep back from the edge of the road but make sure you can still see approaching traffic and give yourself lots of time to have a good look all around.
- Do not cross diagonally.
- Do not cross near large vehicles.
- Do not use your mobile phone while crossing the road.

Rescue Plan Arrangement

Contractors must develop a rescue plan for all the relevant activities involved, such as Confined Spaces, Work at heights, and other related activities as identified in the risk assessment.

- Submit the appropriate Rescue plans along with the JSA and Method statement for Emirate steel Intervention team for verification and approvals at least 48 hours prior to work commencing on site.
- Before developing a Rescue plan, the contractors' team must visit the worksite location and carry out a risk assessment to identify the resources required to produce a suitable and sufficient safe system of work, including a rescue plan, and to specify appropriate rescue equipment.
- Contractors may request the ES Emergency Intervention team for expert rescue advice in advance.
- The Contractor is responsible for ensuring all the required resources are deployed and implemented accordingly.



Health and Hygiene

Maintaining good health and personal hygiene is essential to both your well-being, as well as the well-being of your co-workers.

Simple health and hygiene include:

- Maintaining good personal hygiene at all times.
- Identifying and avoiding exposure to chemicals/anything which can damage your health.
- Understanding the importance of protecting yourself from harm.
- Always wash your hand before eating, using restroom facilities, smoking, drinking etc.
- Handling all chemicals in a safe manner.
- Using washing facilities regularly.
- Wearing the correct PPE for the job at all times.
- NEVER expose yourself to any chemical that you cannot identify.

Good Sanitary habits include:

- Ensuring you monitor your levels of hydration.
- Keeping eating areas clean.
- Keeping toilet facilities clean.
- Keeping bathroom facilities clean.
- Only smoke in designated smoking areas.

Safety Barriers

On every work site, the proper use of safety barriers shall be done to ensure it protects you from hazards. The following work operations usually require the area to be cordoned off:

- Working at heights and the erection and dismantling of the scaffolding.
- Hot Work
- The use of aerial work platforms
- The use of radioactive sources (dedicated barrier equipment with appropriate signage).
- Demolition work
- Excavation work
- Lifting Activity
- Work with hazardous chemicals etc.

A Risk assessment/job safety analysis will identify the need for any other barriers. No one may remove/change barriers without an agreement with the person responsible for the barrier (such as a supervisor). The responsible Contractor shall use appropriate barriers with proper signage within the work areas. There are different types of safety barriers that can be found on any work site.

Type of barriers

Types of barriers are used; permanent barricades and temporary barricades. Permanent barricades are fixed, painted structures or barriers such as gates and fences. Hard barriers are generally constructed from scaffolding standards to protect open excavations or any other floor/ground openings. Soft barriers for easy removal include coloured tapes, ropes, and safety cones.

Barricading materials such as tape and or mesh shall be installed with the top edge at a height between 900 mm to 1200 mm. Barricade tape is temporary and for short duration service, if long term barricading is identified, then other means of barricades or hard barricade shall be established. No one is allowed to step over the barricading tapes, and it should be firmly tightened to ensure barricading tapes is not sagging. Sufficient safety cone availability shall be ensured by the contractor to place the independent barricade. The damaged safety cone shall not be used at the site by the contractor. The contractors are not allowed to tie any barricading tapes with the existing plant structures as Independent barricading shall be provided by using the safety cones.

Soft Barricades:

- Soft barricading can be used to prevent entry of people and equipment as an immediate and short-term control measure. Soft barricades are typically plastic bunting tapes of various colours or mesh that are not self-supporting.
- They do not provide any mechanical strength, but are primarily used to define danger, caution and commissioning zones used in conjunction with warning tags to inform workers of the reason for the defined zone.
- This type of barricading will be used when the risk assessment indicates that the risk of using soft barricading is acceptable.



Red and White

Danger Tape: "Danger DO NOT Enter"



Yellow and Black

Caution Tape: "Access Permitted Caution Required"



Blue and White

Commission Tape "No Unauthorized Access allowed"



Magenta Purple and Yellow

Radiography Work

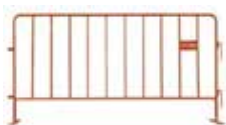


Traffic Cones and Bollards

Traffic cones and bollards should not be used to define exclusion zones as personnel can easily enter zones. Contractor to place the independent barricade by using the cones & barricading tapes.

Hard Barricades

The use of soft barricades in certain situations is not an adequate control and hard barricading shall be used to mitigate the exposure to the risk(s). More rigid devices may be used for temporary barricading. The following (but not limited to) are examples of where this applies (Open trenches / excavations, Floor Openings, Areas where handrails or grid mesh have been removed).



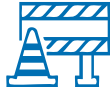
Excavation Safety

Contractors must follow minimum safety precautions when working on the preparation plan for an excavation or trenches.

Eliminate hazards and control risk by implementing necessary precautions in excavation and trenches with;



Pre-planning



Protective Systems



Safety Measures



Inspections

- Supervisor must complete a Site Survey Sheet before commencing any excavation activity, including a ground stability check.
- Identify all underground utilities, notify and get authorization from the appropriate department.
- Materials from the excavation should be stored at a safe distance (at least 1.5 meters) from the excavation, and this will help reduce the risk of them falling onto people.
- Adequate wall protection may be required to protect against edge collapse. This would be identified in the risk assessment.
- Excavation areas must be protected by proper means, including; warning signs; hard or soft barriers; or flashing warning lights.
- Proper access and egress shall be provided at all times.
- Where possible, steps shall be cut into the ground to provide access/egress to the excavation. If this is not possible, then ladders must be positioned at safe intervals, as identified in the JSA, with a minimum projection of 1 meter above the edge of the excavation.
- An excavation permit is required for all excavation activities. If the excavation depth exceeds 1.5 meters, a confined space permit is also necessary.
- Contractors to make sure use of cable and metal detectors to locate any underground utilities in addition to the underground utilities drawings.
- Excavations are to be backfilled immediately after the completion of work.

Personal Protective Equipment (PPE)

Contractors shall use PPE as a last line of defence where workplace hazards cannot be eliminated or reduced to an acceptable level.

Contractor personnel working at Emirates Steel worksites shall comply with all applicable PPE requirements for the task they are performing or the area in which they will work. The minimum required PPE within Emirates Steel is Safety Helmet, Coverall, High ankle safety boots, ear plugs and Safety Glasses. Contractor personnel needing to wear spectacles for their work will be required to wear prescription safety glasses whenever they work at Emirates Steel. The Contractor management must ensure that Contractor personnel are provided with prescription safety glasses to access the Emirates Steel plant or work areas. In addition to this, contractor employees must carry personal gas detectors while working in the DRP plants and any other areas specified in the JSA.

Other PPE may be required, dependent on the task being performed. Loose clothing & Jewellery shall not be worn, and long hair shall be tied back when work is performed around machinery with exposed moving parts. Loose clothing worn around the neck area is forbidden.

Contractors or visitors must follow below mandatory dress code:



PPE Policy for all Contractors (Mandatory):



Safety
Helmet



Coverall/Industrial
company uniforms



High ankle
safety shoes



Safety
Glasses



Ear plugs
(for high noise area)

Contractor provision of PPE should be relevant to the task they are assigned, offering protection against the hazards present. All PPE worn by contractors and subcontractors personnel shall be subject to inspection by Emirates Steel end user and EH&S departments and must meet the requirements of Emirates Steel PPE procedures.

Note: The Contractor must ensure that the appointed (approved by ES) safety officer is provided with a visible red helmet.

Contractor personnel not adhering to PPE rules shall be removed from the site and not allowed re-entry until the next day, pending confirmation of future compliance.

Head Protection

All personnel must wear approved head protection in all work areas where it is mandatory to do so to protect their head from injury; where necessary, safe chinstraps must be worn. It will protect against work site hazards such as; dropped objects, electrical contact, and accidental bumps.



Hard helmets shall be worn at all times when working inside or outside the plant.



Avoid marking or altering the hard hat. It will damage the integrity of the shell.



Inspect it daily before use. If it shows signs of damage or cracks or any defect replace it immediately



Do not wear any items such as Baseball Caps underneath safety helmet.



It is recommended to use chin straps while working at height, in high wind conditions and in confined and restricted spaces

Receipt and wearing of all necessary PPE for any work area is the personal responsibility of the individual user as is the maintenance of the PPE. If any item of PPE is found to be defective, or damaged, the individual user is required to source safe PPE before entering the work area. All PPE must be worn securely at all times.

Eye Protection

All personnel must wear approved eye and face protection in all work areas where it is mandatory to do so. This will protect against work site hazards such as; flying debris, loose particles and light radiation.

PPE in the form of eye and face protection comes in 2 types; safety glasses with side protection, and safety goggles. The type which you require to wear will be identified by the Supervisor in the JSA and communicated with employees in the TBT.



Safety Glasses with side protection



Safety Goggles

Face Protection

Face shields should be worn along with eye protection (goggles or safety glasses)

Face shields: provide protection to the face and neck from flying objects and sprays of hazardous liquids & gold shields will protect from radiant heat.

Welding shields protects face and eyes from flying sparks, metal spatter, & slag chips produced during welding, brazing soldering and cutting.

Hearing Protection

All Contractor personnel must wear approved hearing protection in their work areas where it is mandatory to do so (After implementing engineering and work practice controls). When an employee's noise exposure exceeds an 8-hour time-weighted average (TWA) sound level of 85 dBA. Contractors must ensure that choosing the right hearing protection. Hearing protection should always have an NRR value, so look for it when choosing hearing protection.

Correct method to use wear ear plug as follows;



Step 1

Roll the plug with your hands to be less than the size of your ear canal



Step 2

Lift the upper part of the ear and make it easy to plug in the ear canal



Step 3

Rotate the earplug into the ear canal until the ear plug expands to the inner wall of the ear canal

Foot Protection

All personnel are required to wear approved safety foot wear in all work areas it is mandatory to do so. This will protect against worksite hazards such as; dropped objects, excessive heat, and sharp objects etc.

Hand Protection

Hand and finger injuries are very common in the construction industry. To protect yourself from risk you must wear approved hand protection in all work areas where it is mandatory to do so. Different hand protection protects you from different work site hazards.

General hand protection

You can protect your hands by following basic safety rules including;

- Use brushes to sweep debris like metal chips.
- Do not wear watches or jewelry when working with machinery.
- Do not use your hand for feeding material into machinery.

Protective Clothing

Contractor employees entering ES premises must wear industrial clothing is mandatory. Contractor employees will wear overall or industrial company uniform, it must be in compliance with BS EN ISO Standard 013688 or equivalent international standards. These items of clothing shall be flame resistant unless otherwise advised. Loose clothing shall not be worn.

High- Visibility clothing

Contractor employees must wear approved high-visibility clothing where it is mandatory to do so. This will protect against work site hazards such as vehicle traffic.



Fall Protection

Working at height is the most significant risk in any industry, and falls are the leading cause of workplace fatalities. Each employee on a walking/working surface (horizontal and vertical surface with an unprotected side or edge which is 2m or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

- A Safety harness (or other appropriate fall protection as required) must be used while working on any temporary or permanent platform that is without a proper handrail.
- Lanyards shall be hooked to structural members as close to above shoulder height as possible and NEVER below waist level.
- Snap hooks with locks should be attached to the end of each lanyard to prevent roll-out.
- Lanyards, lifelines, and structural attachments shall be rated to accept a minimum safe weight of 2450 kg (5400 lbs.)



Respiratory Protective Equipment

Approved RPE must be worn where appropriate were required to protect against hazards such as; dust, harmful gases, paint spraying, sandblasting, and chemical exposure.

The types of Respiratory protection equipment available, include:



FFP - Filtering Face Piece (Dust mask)



APR- Air Purifying Respirators



ASR - Air Supplying Respirators

What to do in an emergency

In case of an emergency, you must follow these basic emergency rules;

In the event of a worksite emergency, the plant alarm will sound, signalling the type of emergency that is being experienced. When the alarm sounds, remember your training. Some basic safety actions in a worksite emergency can include;

- ALL Permits to Work are cancelled in any plant emergency.
- For any release of gas, an emergency identifies wind direction before escaping.
- Always ensure your own safety first.
- Alert anyone who may be at risk of an emergency.
- Extinguish all sources of ignition.
- Cease all work and make all equipment safe.
- Close all valves and gas cylinders.
- Pull vehicles and mobile equipment off of the road.
- Turn the ignitions off and leave the key in the vehicle.
- Proceed safely and swiftly to your nearest safe Assembly Area.
- Upon arrival, report to your immediate Supervisor.
- Remain in the Assembly Area until instructed otherwise.
- Supervisors shall report to their immediate manager.
- Senior company representative shall report possible missing persons and their last known location to the Emergency Response Team.
- Follow any orders from the Emergency Response Team.



Waste Management

Contractors are responsible for all waste generated during work activities. Everyone must work to reduce the amount of waste produced. To achieve this, there are some simple steps to be followed.

- All contractors shall comply with ES waste management procedures
- Plan your activity and only order as many materials as you require.
- Storage of waste should be in an organized and safe manner
- The Disposal of waste should be done in a timely manner
- Onsite waste shall not be burnt or buried
- A waste manifest shall be obtained for all disposed waste
- Waste shall be stored and collected according to the type of waste in compliance with EAD and ES requirements as necessary.

Emergency Contact Numbers

Any Emergency inside Emirates Steel; Call ES Emergency Hotline Number



A Useful Approach to Safety





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