



Lusail Real Estate Development Company

Health, Safety, Security, Environment, Logistics & Quality
Department

Lusail Construction Safety Management Procedure – Field and Office Facilities

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COMPANY PROPRIETARY INFORMATION

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1. Description

This element of the LCSMP details the requirements for sanitation, lighting, and temporary housing and/or heating at field facilities and project field offices. This element applies to all Lusail personnel, Contractors, Developers, Consultants and subcontractors working on the Lusail projects.

This element does not apply to mobile crews or to normally unattended work locations as long as employees working at these locations have transportation immediately available and within the normal course of their duties to nearby facilities, allowing them to otherwise meet the requirements of this section.

This element does not address housekeeping or materials storage requirements, which are covered in [LUS-HSE-WG3-446-017](#) - Hazardous Material Handling, Transportation and Storage.

2. Definitions

Term	Description
Damper	Valve or plate for regulating air flow.
Liquefied Petroleum Gas (LPG)	A moderately compressed liquid consisting of flammable hydrocarbons that is used as a gas.
Potable Water	Water that meets the quality standards prescribed by local drinking water laws.
Salamander	A portable, temporary heating device that may be oil or gas fired.
Toxic Material	A material in concentration or amount that exceeds the applicable limit established by a standard, or, in the absence of an applicable standard, that is of such toxicity to constitute a recognized hazard that causes, or is likely to cause, death or serious physical harm.
Urinal	A toilet facility maintained within a toilet room for the sole purpose of urination.
Water Closet	A toilet facility maintained within a toilet room for the purpose of both defecation and urination and that is flushed with water.

3. Responsibilities

The Contractor is fully responsible for the pre-planning, development of Method Statements, Job Hazard Analysis, overall safe work planning and implementation. The Contractor's Project Management is responsible for the assurance that all work is planned and conducted according to the pre-planning document, Contractor and Lusail Health Safety & Environment (HSE) procedures and the Qatar Construction Specifications 2010. Should a conflict occur between procedures/standards or requirements the more stringent will apply.

4. Facility Sanitation Plan

The HSE Representative determines the project requirements in accordance with this element and with all country and local requirements. During the project design phase, the HSE Representative develops a facility sanitation plan that includes facility requirements and provisions for maintaining clean and sanitary facilities. As a minimum, the plan includes the following project-specific content:

- ◆ Potable water source
- ◆ Potable water distribution system
- ◆ Number of toilets
- ◆ Toilet, wash station, change room, and shower cleaning and restocking system
- ◆ Locations of disposal receptacles
- ◆ Extermination provisions, if necessary

- ◆ Temporary facilities provisions, if necessary
- ◆ Inspection logs

The Project Manager reviews and approves the facility sanitation plan and is responsible for arranging for setup of the required facilities.

The Project Manager designates the employee(s) responsible for cleaning and maintaining drinking water, sanitation facilities, and/or temporary facilities, as applicable.

5. Illumination Requirements

Walking, working, and climbing areas are illuminated with either natural or artificial illumination at a minimum intensity of 5 foot-candles (fc) (54 lux). Minimum illumination requirements are detailed in [LUS-HSE-FM4-446-008](#) – Minimum Illumination Intensities. For areas or operations not covered or where occasional work tasks require more light than that which is consistently and permanently provided, supplemental lighting is used.

The illumination in other work areas (e.g., farm areas) is of an average minimum of 1 fc except for security purposes when a minimum light intensity of 0.5 fc is maintained.

Lights are arranged so that they do not shine into the eyes of employees, particularly winch-drivers, crane operators, or hatch tenders.

6. Temporary and Portable Lights

Employees are not permitted to enter dark spaces (e.g., holds, compartments, or decks) without a flashlight or portable light. The use of matches or open flames is prohibited.

- ◆ Each employee working underground must have an acceptable portable hand lamp or cap lamp in the work area for emergency use, unless natural light or an emergency lighting system provides adequate illumination for escape.
- ◆ Temporary lights are equipped with guards to prevent accidental contact with the bulb. Guards are not required if the reflector is constructed so that the bulb is deeply recessed.
- ◆ Temporary lights are equipped with heavy-duty electric cords with connections and insulation maintained in safe condition. Temporary lights are not suspended by their electric cords unless those cords and lights are designed for this means of suspension. Splices that have insulation equal to that of the cable are permitted.
- ◆ Cords are kept clear of working spaces and walkways or other locations in which they are readily exposed to damage. Electric conductors and fixtures for portable lights are arranged so they are free from contact with drafts, running gear, and other moving equipment.
- ◆ Exposed noncurrent-carrying metal parts of temporary lights furnished by the employer are grounded either through a third wire in the cable containing the circuit conductors or through a separate wire which is grounded at the source of the current. Grounding is in accordance with [LUS-HSE-WG3-446-024](#) – Electrical Safety.
- ◆ Temporary lighting stringers or streamers are so arranged as to avoid overloading of branch circuits. Each branch circuit is equipped with over current protection of capacity not exceeding the rated current carrying capacity of the cord used.
- ◆ When explosives are handled, only acceptable portable lighting equipment is used within 15.2 m (50') of any underground heading.

7. Potable Water Requirements

Contractors shall provide an adequate supply of drinking water to all personnel at all project sites. Cooled drinking water must be provided in site offices, mess areas, field rest shelters and at other suitable points to ensure every worker is within 3 minute walk from a water station. Provide cool drinking water during hot weather.

Supply drinking water from sources approved by the Qatar Ministry of Health. Potable water shall be of a quality specified in the World Health Organization (WHO) Standard for drinking water.

The Contractor shall ensure that the water is of 'wholesome' quality and free of all contaminants. The contractor shall install water filters, chlorinators and disinfection units and ensure that water storage tanks are cleaned and maintained

keeping full and detailed records of water standard and bacteriological results. Water shall be checked by a public health. Representative on a monthly basis and the bacteriological and chemical results published. If required on overseas projects, treat drinking water chemically or boil it for ten (10) minutes and tested. If sediment is present, the water must be clarified. Chemical treatment must provide a residual chlorine content of 0.3 to 0.6 parts per million (ppm).

Use only approved potable water systems to distribute drinking water. If water cans are refilled, follow [LUS-HSE-FM4-446-009](#) - Water Can Filling Station Procedures.

Dispense drinking water by a means that prevents contamination between the employee and the source. Do not dip water from containers.

Provide drinking water from covered, tightly closed sources with taps. Clean the water containers at least weekly and refill them at least daily. Drinking water containers must be clearly marked and labeled as such; they cannot be used for other purposes.

Provide disposable, single-use cups for drinking water. Ensure that receptacles are available for used cup disposal.

8. Toilet Requirements

Every site where anyone is employed for more than four consecutive hours must have sanitary facilities.

Rooms containing sanitary facilities shall have sufficient exhaust ventilation to remove foul air and moisture in accordance with ASHRAE Codes and Standards.

The walls, floors and partitions within rooms containing sanitary facilities shall be finished with impervious wipe clean surfaces in order to maintain them in a hygienic condition.

When sanitary sewers are not available, Contractors shall provide one of the following facilities:

- ◆ Chemical toilets
- ◆ Recirculating toilets
- ◆ Combustion toilets
- ◆ Other toilet systems as approved by state and local government

If the project has twenty or more employees of both genders, provide gender-specific toilets unless lavatories are single occupancy.

Refer to [LUS-HSE-FM4-446-010](#) – Toilet Requirements Table for details on number of facilities required based on jobsite populations.

Each toilet facility must be equipped with:

- ◆ Toilet seat cover
- ◆ Metal, plastic, or porcelain urinal trough (unless specifically designed for female employees)
- ◆ Separate compartments with partitions between fixtures sufficiently high to ensure privacy
- ◆ Protection against weather and falling objects
- ◆ Tight-fitting, self-closing door with internal latches
- ◆ Adequate ventilation
- ◆ Screened windows or vents
- ◆ Lighted interior

Chemicals, toilet tissue, and sanitary seat covers are maintained in a supply sufficient for use during the entire shift.

The Contractor shall arrange for a septic tanks to be emptied on a regular basis to prevent overflowing. Septic tanks shall be of sufficient size / quantity to cope with planned peak hour.

The contractor shall employ a dedicated cleaning team to ensure that suitable cleaning / disinfecting procedures are implemented in all sanitary conveniences. The frequency of cleaning shall depend on the frequency of use but shall be at least once prior to commencement of each shift.

9. Washing Facility Requirements

Every site where anyone is employed for more than four consecutive hours must have washing facilities. The Contractor shall provide washing facilities adjacent to toilets, mess area and in areas where employees handle potentially harmful materials.

Rooms containing washing facilities shall have sufficient exhaust ventilation to remove foul air and moisture according to applicable industry standards.

The walls and floors of rooms containing washing facilities shall have sufficient exhaust ventilation to remove foul air and moisture according to applicable industry standards. The walls and floors of rooms containing washing facilities shall be finished with impervious wipe clean surfaces in order to maintain them in a hygienic condition.

On sites where the contractor employs up to 25 workers washing facilities must include 1 wash basins, plus 1 extra for every additional 25 workers

On sites where the Contractor employs more than 100 workers, washing facilities must include 4 wash basins plus 1 extra for every additional 50 workers

Washing facilities include soap, warm water, and individual hand towels, warm air blowers, or clean individual sections of continuous cloth toweling. Both a sanitary container for unused towels and a receptacle for disposal of used towels will be provided.

Where it is not practical to provide running water, hand sanitizers may be used.

Cleansing agents are adequate to remove any paints, coatings, herbicides, insecticides, or other contaminants. Gasoline and solvents are not used for personal cleaning.

10. Shower Requirements

Suitable and sufficient showers if required by the nature of the work or for health reasons, must, so far as is reasonably practicable, be provided or made available at readily accessible places.

Contractors shall provide showers and change rooms where employees must work with regulated hazardous chemicals (e.g., lead and asbestos) and at temporary work camps.

One shower is provided for each ten (10) employees of each sex who are required to shower during the same shift.

Showers are supplied with hot and cold water feeding a common discharge line.

Employees who use showers are provided with soap and individual clean towels.

Where change rooms are required, the site provides separate lockers for street clothes and clothing contaminated with toxic chemicals or paints.

When working clothes are provided and become wet or are washed between shifts, provisions are made to ensure such clothing is dry before reuse.

11. Non-potable Water Requirements

The Contractor may use clean, non-potable water for cleaning work premises other than food processing and preparation premises and personal service rooms.

Clean non-potable water must not contain concentrations of chemicals, fecal coliform bacteria, or other substances that could create unsanitary conditions or be harmful to employees.

Non-potable water sources, such as water for industrial or firefighting purposes where available, must be conspicuously posted and labeled "Caution – Water Unfit for Drinking, Washing, or Cooking."

Cross-connections (open or potential) between potable and non-potable water systems are prohibited.

Non-potable water cannot be used for washing any portion of the person, cooking or eating utensils, or clothing.

12. Messing Facility Requirements

The Contractor shall provide sufficient and conveniently accessible mess areas for all Workers on site.

Mess areas shall only be located within suitable buildings/ structures and shall be enclosed, free of dust / sand ingress and air conditioned.

Mess areas shall be located away from works areas in separate buildings / structures wherever possible. Where it is not deemed possible, appropriate partitioning shall be erected .

Mess Areas shall be fitted out with tables and benches . The number of tables and benches should allow for every worker to sit at a table while eating food. The mess area will be sized at a minimum of 1.5m² per worker.

Should space restrictions should be an issue, the contractor shall organize meal breaks into shifts to ensure that no worker is forced to eat food on site or outside the defined mess area.

The consumption of food shall be restricted to the mess area. The contractor shall ensure that all Sub Contractor's Workers are provided for in the site mess area.

Cooking shall not be allowed in the site mess area. Should the contractor require a full canteen with kitchen that is preparing hot food, a written proposal shall be submitted in advance to the Construction Manager.

The Contractor shall employ a dedicated cleaning team to ensure that suitable cleaning/disinfecting procedures are implemented in all mess areas, the frequency of cleaning shall depend on the frequency of use but shall be at least once prior to the commencement of each meal break.

The HSE Representative ensures that food service facilities and operations are maintained and conducted in accordance with sound hygienic principles in compliance with the health and sanitation recommendations of the Qatar Ministry of Health and other applicable regulations.

Food dispensed by Contractors must be wholesome, free from spoilage, and must be processed, prepared, handled, and stored so that it is protected against contamination.

Employees are encouraged to wash their hands and face before eating.

Consumption of food or beverages in a toilet room or areas exposed to toxic materials is prohibited.

13. Vermin Control Requirements

Pest control measures shall be implemented in all site offices, mess areas, washing and sanitary facilities. As far as practical, enclosed workplaces are constructed and maintained to prevent the entrance or harborage of rodents, insects, and other vermin.

Pest control measures will be appropriate to known / likely pests and carried out at a frequency to ensure pests are controlled. Where the presence of such vermin is detected, the Project Manager implements the provisions for extermination in accordance with the project facility sanitation plan.

Pest control measures shall only be carried out by competent persons. Facilities shall not be used when a hazardous pest control substances are being applied.

14. Temporary Quarters Requirements

The design and construction of temporary structures must consider the following loads (refer to ASCE 7-2010):

- ◆ Dead and live loads
- ◆ Rain loads
- ◆ Seismic forces
- ◆ Soil and hydrostatic pressures
- ◆ Wind loads

The Contractor shall submit plans of temporary construction buildings, facility fencing, access routes, and anchoring systems for temporary structures to Lusail Representative for review and approval. The use of concrete masonry block to build any temporary facilities is strictly prohibited.

The Contractors shall anchor trailers and other temporary structures used as field offices, as personal housing, or for storage with rods and cables or by steel straps to ground anchors. The anchor system is designed to withstand winds and must meet applicable state or local standards for anchoring mobile trailer homes.

All sites used for temporary work camps must be adequately drained. They cannot be subject to periodic flooding nor can they be located within 60 meters of swamps, pools, sinkholes, or other surface collections of water unless adequate mosquito control methods have been implemented. The sites are graded, ditched, and rendered free from depressions in which water may become a nuisance.

Sites are sized to prevent overcrowding of necessary structures.

The grounds and open areas surrounding the shelters are maintained free of rubbish, debris, waste paper, garbage, or other refuse.

Shelters must provide protection from the elements.

Temporary sleeping quarters must meet the following requirements:

- ◆ Temporary sleeping quarters are cooled/ heated, ventilated, lighted, and maintained in a clean and safe condition. Living quarters are provided with windows that may be opened for ventilation.
- ◆ Beds, cots, or bunks, and suitable storage facilities (e.g., wall lockers for clothing and personal articles) are provided in every room used for sleeping.
- ◆ Each room used for sleeping must contain at least 50 ft² of floor space for each occupant and ceilings at least 2.3 m (7' 6") high. Beds are spaced no closer than 1 m both laterally and end-to-end and are elevated at least 0.3 m from the floor. Double-decked bunk beds are spaced not less than 1.2 m both laterally and end-to-end with a minimum space of no less than 0.8 m between the upper and lower bunk. Triple-deck bunks are prohibited.
- ◆ Floors are constructed of wood, asphalt, or concrete. Wooden floors are of smooth and tight construction. Floors are kept in good repair.
- ◆ All exterior openings are effectively screened with 16-mesh material and screen doors are equipped with self-closing devices.

15. Temporary Heaters Requirements

Supervisors ensure that temporary heaters are appropriately placed and correctly used with necessary ventilation.

Each heater unit must have a permanently affixed plate with the following safety data legibly stamped on the plate:

- ◆ Instructions for lighting and extinguishing
- ◆ Type of fuel to be used
- ◆ Operating input pressure or voltage appropriate at the burner
- ◆ Side and top clearances from combustible material

The appropriate type of fire extinguisher must be available in the area of any temporary heater.

Heaters are set level when in use. Heaters cannot be moved, handled, or serviced while the component parts are hot to the touch.

Under no circumstances are heaters allowed to be refueled while operating. Attempting to relight a heater while it is still hot can result in an explosion of lingering gas vapors.

When gas heaters are used, they are equipped with an automatic device to shut off the flow of gas to the burner and pilot if the flame fails

Liquefied Petroleum (LP) gas heaters are equipped with an approved regulator in the supply line between the fuel cylinder and the heater unit.

Heaters are properly vented so that combustion gases do not accumulate to produce a toxic atmosphere. If the natural means of fresh air supply is inadequate, mechanical ventilation is provided.

- ◆ When mechanical ventilation is necessary, the ventilation must meet the following requirements:

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- Vents are run at least 0.5 m from combustible materials, and thimbles are used to protect roofs or walls where vents pass through.
 - Thimbles are 10 cm larger in diameter than the vent connector. If a thimble is not used, metal flashing is used to provide a 15 cm clearance from the vent connector to combustible roofs or walls.
 - Vents extend at least 1 m above the roof and at least 0.6 m higher than any building within a horizontal distance of 3 m, and draft hoods are provided.
 - Vent stacks exhaust at least 1 m away from air intake openings such as doors or windows.
 - ◆ Dampers are incapable of closing off more than 80% of the cross section of the vent stacks.
 - ◆ When heaters are used in confined spaces, sufficient ventilation is provided in accordance with [LUS-HSE-WG3-446-015](#) - Confined Space Entry, to ensure proper combustion, maintain the health and safety of the workers, and limit temperature rise in the area.
 - ◆ To avoid carbon monoxide accumulation, oil-fired salamanders are not used in closed buildings or in structures with temporary covering. All fuel-fired heating units must be attended at all times.
 - ◆ Propane is not used below grade or adjacent to below-ground work areas. Propane gas is heavier than air: a slight leak could build up into an explosive pocket when used in or adjacent to below-ground elevations or confined spaces.

Heaters are refueled by trained personnel only. When gas cylinders are refueled, static grounding must be maintained and tanks cannot be over pressurized.

16. Medical Facility Requirements

The contractor shall provide adequate and appropriate medical provisions based on the number and distribution of workers in accordance with the Supreme Council of Health(SCH) requirements and licenses.

All workers must have a reasonably rapid access to first aid . If workers are dispersed over a wide area, then the contractor shall provide adequate first aid cover for all locations.

The contractor shall provide medical insurance for all workers in accordance with Qatar Labor Law.

Where the number of workers on site exceeds 50, there should be at least one fully trained First Aider provided by the Contractor.

First Aiders should have completed an approved course of training, typically a 3 day course, such as those organized by the Hamad medical Corporation or any other internationally approved Society. They should thereafter undertake a refresher course every year and shall undergo re- certification after three years.

Where there are less than 50 workers on site, the Contractor must ensure that a Worker is trained to “ appointed persons” standard, typically a one day training course.

Where there are more than 100 Workers on site, a resident site nurse shall be required. The site nurse shall be provided with an air-conditioned medical station. This shall be a private room or cabin and registered in accordance with SCH. The site nurse may not issue prescription drugs and shall be qualified to work as a registered nurse in Qatar.

Each Contractor shall have a designated medical doctor when there are more than 500 Workers on site. This maybe a retained service or full time employee. Where there are more than 5000 Workers on site, Contractors shall provide a resident doctor. Medical doctor shall be qualified to work as such in Qatar.

The medical doctor shall carry out emergency first aid, basic health surveillance and routine consultations for direct Workers of the Contractor and shall be available to consult on health – related work restrictions for individual Workers.

All injuries more severe than first aid cases and medical emergencies shall be referred to LREDC HSSE Control Center via the Emergency Hotline 44977666.

First Aid Boxes shall be deployed on site. The size and content of the first aid boxes shall be positioned to ensure easy access to the contents. Only qualified personnel shall be authorized to use such equipment.

The location of first aid boxes must be clearly signed. First aid boxes shall be positioned to ensure easy access to the contents. Only qualified personnel shall be authorized to use such equipment. Valid third party training and certification shall be required for authorized persons such as the site nurse and first aiders.

Defibrillator kits shall be supplied to site. The location of defibrillator kits boxes must be clearly signed and shall be positioned to ensure easy access. Only qualified personnel shall be authorized to use such equipment. Valid third party training and certification shall be required for authorized persons.

17. Facility Cleaning and Maintenance

All work sites must be kept clean and orderly to the extent that the nature of the work allows. The Project Manager is responsible for ensuring sanitary facilities. Every employee is responsible for the cleanliness, safety, and efficiency of the workspace, whether it is in a construction or an office environment. Subcontractors must clean, maintain, and stock their own facilities.

Maintain toilets, washing facilities, showers, and change rooms in good repair and clean them weekly to maintain sanitary conditions. Take precautions to prevent slip hazards from wet floors.

Immediately repair any defective or inadequate facility or remove it from service.

Clean water containers at least weekly and refill them at least daily.

To reduce threats of fire or accidental injury, employees must maintain cleanliness of the workspace as the task and the workday progress.

Overcrowding and misplacement of equipment or furniture in the workspace is a threat to health and safety. The following areas must be kept clear of debris and larger objects:

- ◆ Aisles
- ◆ Exits
- ◆ Paths of travel
- ◆ Stairwells

Planning the location of equipment and furniture must take in consideration:

- ◆ Access to materials
- ◆ Firefighting
- ◆ Fire hazards
- ◆ Flow of personnel
- ◆ Obstruction of evacuation
- ◆ Rescue activities

General cleaning supplies and tools are provided and stored in a designated area to be accessed as needed for daily maintenance.

18. Inspections

The designated person conducts daily inspections of sanitary facilities, drinking water, food service areas, and temporary quarters; documents the inspections on an inspection log; and submits the logs to the HSE Representative at least monthly. The HSE Representative reviews inspection logs and monitors the effectiveness of this element.

19. Training

Contractors shall train their employees in potential health hazards and minimum sanitation requirements.

The Contractor HSE Representative arranges employee training at the time of initial assignment. As a minimum, employees are trained on the following topics:

- ◆ Designated employees who are assigned to handle water containers are trained on the water can fill procedure.

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- ◆ Employees are instructed to use trash barrels to dispose of paper, lunch remnants, and all small scraps of a combustible nature, as well as any other applicable areas of the procedure.

Using an acceptable training form, the records custodian maintains a record of all training or instruction given to employees.

20. Documentation

The records custodian documents all instruction records. Records verifying completion of training are kept in the individual employee's training files.

The HSE Representative maintains project safety training and inspection records at the site for the duration of the project. The records custodian archives them for a minimum retention time of 10 years from creation date.

21. References

ASCE, 7-10, Minimum Design Loads for Buildings and Other Structures

Qatar Construction Specifications 2010 Section 1 Part 10.7.3 "Support Facilities for Contractors Staff and Labor"

Qatar Construction Specifications 2010 Section 1 Part 11 "Contractor's Site Facilities"

Qatari Ministry of Health Regulations

22. Attachments

[LUS-HSE-FM4-446-008](#)

Minimum Illumination Intensities

[LUS-HSE-FM4-446-009](#)

Water Can Filling Station Procedures

[LUS-HSE-FM4-446-010](#)

Toilet Requirements Table