



**ABU DHABI WATER AND ELECTRICITY
AUTHORITY (ADWEA)**

Effective Date : 18.06.2009

Volume	Chapter	Version
19	27	1

Page 1 of 21

**CONTRACTORS' CAMPS & TEMPORARY BUILDINGS
GUIDELINES**

Approved by:

Planning & Development Director:



هيئة مياه وكهرباء أبوظبي
Abu Dhabi Water & Electricity Authority

ADWEA HSE PROCEDURE MANUAL

CONTRACTORS' CAMPS & TEMPORARY BUILDINGS GUIDELINES

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PLANNING & DEVELOPMENT
DIRECTOR



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CONTRACTORS' CAMPS & TEMPORARY BUILDINGS GUIDELINES

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1. Introduction

This guideline gives details of standards that are applicable to all Company and Contractor Personnel alike. Subsequent Health, Safety and Environmental inspections and audits will identify the upkeep of the standards during the life of the camp. The items included in the HSE inspections and audits are attached and the Consultant/Company Project Management has the responsibility to carry out the monthly inspections to ensure continuous HSE compliance.

1.1 Definitions:

- Hazard : Source ,situations or act with a potential for harm in terms of human injury or ill health ,or combination of these
-
- Ill health: Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation.
-
- Incident: Work-related event(s) in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred.
An incident which gives rise to injury, ill health or fatality called "Accident".
An incident where no injury, ill health or fatality occurs may be also referred to as "near-miss", "near hit", "close call" or "dangerous occurrence".
- Hazard: Source ,situations or act with a potential for harm in terms of human injury or ill health ,or combination of these

2. General Information

Temporary building(s) on construction sites, must be separated from the building under construction or refurbishment and other permanent buildings to provide a fire break, which must be at least 10 (ten) meters wide.

All new camp sites, existing sites to be re-occupied or changed and any extensions to existing sites shall be subject to a Health, safety and Environmental Impact Assessment (HSEIA).

The size of the building plot for the siting of camps must take into consideration the habitable space provision required for each individual worker. The individual space requirement for each worker regardless of grade is minimum 4.5 m² Gross.

3. Community Facilities

In planning for the workers camps, the impact on the local community facilities shall be addressed.

There may be an impact on local services/supplies within local townships e.g. shops. Providing alternative services within the local townships or in the camp boundary may relieve the burden on existing local facilities.

Therefore the planning for sports and entertainment, banking, security, fire services and telecom as well as supply stores and retail outlets must be considered.

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4. Leasing or Renting of Existing Camps

Where a Contractor plans to lease/release or rent an existing worker camp site, or intends to relocate used cabins from local or external sources, to house workers, it shall be the duty of all parties Consultant/Company and Contractor to ensure that the standard of the site meets these guidelines in terms of structure, layout, facilities and other HSE elements of design.

All camps, regardless of the state of ownership or extent of lease period, shall be expected to meet these guidelines.

In situations where it is impossible to implement some items of the Guideline due to financial, logistical or other constraints, a grace period to phase in the requirements may be granted on a case by case basis. This will require thorough and careful deliberation of the dispensation request of concerned entity.

5. Layouts for Worker Camp Areas

The presentation of proposed new sites for camps shall include the HSEIA study for the area. It shall provide a site evaluation summary that includes, but is not limited, to the following depending on the camp size:

1. Overall plot layout
2. Road layouts
3. Structure layout standards
4. Accessibility for pedestrians
5. Accessibility for vehicles (services, emergency, etc.)
6. Transportation both local and municipal
7. Utilities, Water, Electricity etc.
8. Catering facilities
9. Waste management & Sewage treatment
10. Local amenities
 - a) Entertainment
 - b) Banking
 - c) Public telephones
 - d) Laundry
 - e) Salons
 - f) Retail outlets

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g) Restaurants

11. Fire response

12. Medical response

6. The Site

6.1 Residential Caravans/Cabins (typical size 10m x 3.5m)

Every caravan or unit shall not be less than 6 meters from any other unit and not less than 3 m from any carriage way/road. The distance (separation) between each caravan/unit may be reduced to 4 m. This will only be acceptable if the exterior coat of the building meets the British Standard (BS) 476 part 22 (fire resistance to 30 minutes) and no openings, (Windows, split A/C vents) are provided in adjacent facing of the buildings or light panels in the adjacent roof. If a vision (glazing) panel(s) are provided in a separating or dividing wall or door then it shall not reduce the fire resistance required for the surrounding structure and shall accord to the appropriate provisions of BS 6262.

Where the firebreak is less than 4 meters, or temporary building(s) are to be arranged in a "back to back" or "end to end" design then they must be constructed with materials that do not significantly contribute to the growth of a fire or the propagation of smoke and/or corrosive fumes. They should meet the following criteria:

- 6.1.1 Class 1 surface spread of flame performance to meet BS 476 Part 7 (UAE Civil Defence regulation chapter 1/55 – mode of testing) to all internal wall and ceiling surfaces and to external surfaces of walls. External surface of roof to meet Class AA in BS 476 Part 3; e.g. aluminium faced fiber insulating board.
- 6.1.2 Employing this standard will ensure that the materials can be expected to prevent a rapid spread of flame in the event of a fire. The standard for the roof (tested from inside) will slow down the fire spread and restrict the flame from jumping from one roof to effect the next or adjacent cabin.
- 6.1.3 Walls and roof to achieve 30 (thirty) minutes Fire Resistance (integrity and insulation) to BS 476 Parts 20 and 22; roof to be tested from below. In the case of building formed in the 'back to back' or "end to end", configuration then the fire resistance of the compartment walls between units shall be 60 minutes fire resistance. The specification for the 60-minute separating wall, including details of the materials used in manufacture, shall form part of the contract details, and be available for Company inspection.
- 6.1.4 Doors and windows to achieve 30 (thirty) minutes Fire Resistance (integrity) to BS 476 Parts 20 and 22.
- 6.1.5 Where Temporary Building(s) are vertically stacked, (i.e. 2 storey), the roof/floor assembly, and members supporting it shall achieve at least 30 (thirty) minutes fire resistance (integrity, insulation and load-bearing capacity) to BS 476 Parts 20 and 21 and have a fire alarm system.

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However, the distance from the caravan/unit to the roadway will not be reduced. The area between the caravan/unit and the boundary whether it be a road or adjacent camp perimeter must be kept clear at all times and storage, placing of machinery or other services are not permitted.

It is often necessary to erect temporary accommodation within a building under construction or refurbishment when space is severely restricted. In such instances the temporary accommodation shall meet the fire performance characteristics stated in the section above.

Temporary accommodation should be erected in locations, which provide ease of access for the Civil Defence and easy evacuation for personnel. In this respect locating temporary accommodation within basements or on upper floors, i.e. at a height in excess of 7.5 (seven and a half) meters from site access level shall be avoided. Where this is not practical other suitable precautionary measures must be adopted after consultation with the relevant HSE Department of the Group Company.

These measures shall be maintained during the course of construction and until a time when the temporary accommodation can be relocated within the lower floors.

Temporary accommodation located inside a building under construction or refurbishment or inside another permanent building;

OR

Within 6 (six) meters of such building(s), shall be fitted with a Fire Detection System.

E.G.

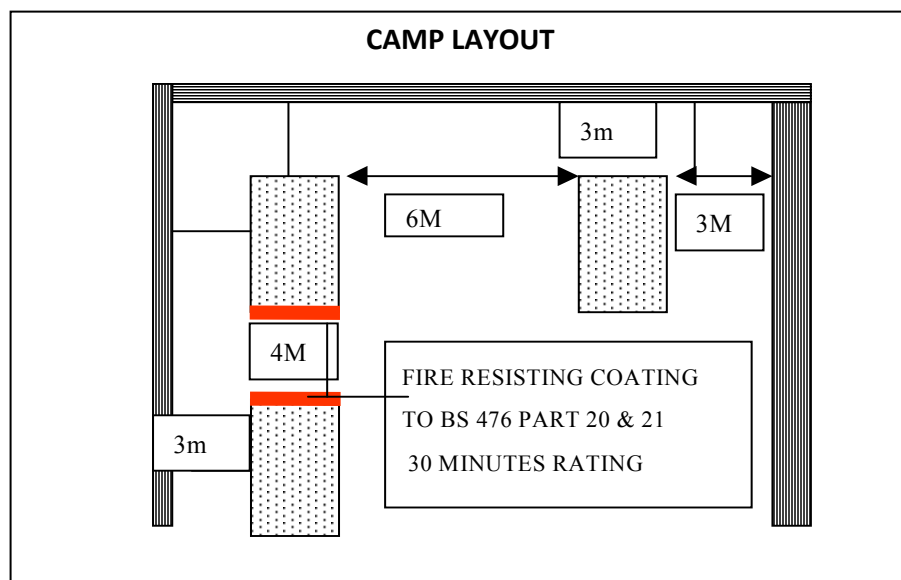


Figure 1

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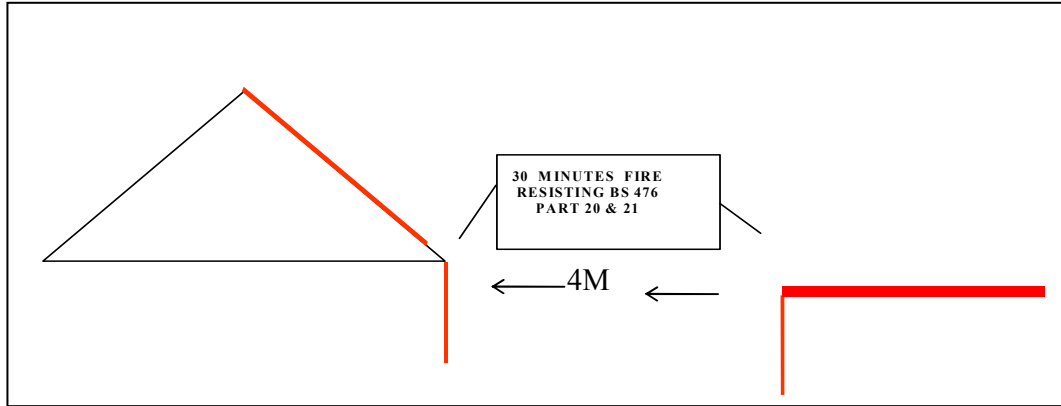


Figure 2

When considering the separation distance and access, it shall be considered to include the requirement to enable emergency response vehicles to enter and access all parts of the camp particularly accommodation but not excluding storage and lay down areas. The typical turning circle of a Civil Defence truck is approximately 5 meters.

6.2 Roads and footpaths

Roads of suitable material shall be provided so that no caravan/unit or toilet blocks, is more than 45 meters from a road. Single-track one way roads should not be less than 5 meters wide or, if they form part of a two-way road each lane to be 3 meters wide with a total road width of 6 m. Each unit and toilet block should be connected to a road by a footpath with a hard non-slip surface. Footpaths should not be less than 0.75 meter wide.

E.g.

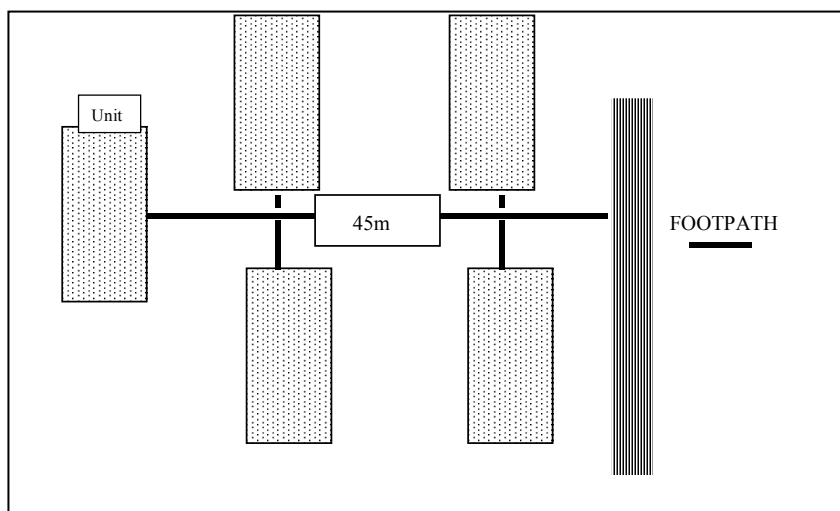


Figure 3

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6.3 Hard Standings (base supports for units)

Every caravan/unit shall be positioned on a hard base of a suitable material (concrete) which should extend over the whole area occupied by the caravan placed upon it or on concrete blocks.

All cabins shall be provided with a fine metal mesh skirt to stop materials and rubbish accumulating under the units.

6.4 Other Requirements

6.4.1 The temperature in all habitable and other rooms in which personnel live and work shall be maintained at a level conducive to the healthful performance of the activity conducted in the area. All habitable rooms shall be sufficiently ventilated by means of natural or mechanical ventilation. All bathrooms, toilet rooms, laundry rooms and similar areas shall be provided with a ventilation system connected to the outside.

6.4.2 The following table lists minimum lighting requirements:

<u>Area</u>	<u>Lux required (as measured 1.2 m above floor)</u>
Hallways	150
Stairways	150
Shower/Toilet blocks	150
Dinning rooms	200
Kitchens	500
Sleeping rooms	150
Dormitory living room	150

6.4.3 An adequate supply of potable water shall be provided to the camp. Potable water shall be distributed in a properly designed and constructed closed system.

Transported water shall be obtained from an acceptable approved source, delivered in a properly designed water tanker, stored and distributed in an approved manner.

A non-potable water system is permitted only for purposes such as air-conditioning and fire protection.

6.4.4 Sewerage will be designed, sized and installed to carry all wash and waste water, sewage etc.

Where a public sewer system is available, all plumbing fixtures and sewers shall be connected to it. Sewage shall be collected and treated prior to disposal. In no case except for temporary camps shall sewage or liquid waste of any type be discharged until it has been properly treated. If conditions are not suitable for provisions of a treatment system, a holding tank (cesspool) may be used with the effluent being trucked to an approved sewage treatment plant.

6.4.5 Garbage / Refuse storage rooms, areas or enclosures shall be large enough to store the garbage containers that accumulate between disposal periods. The room shall be insect and rodent proof and shall be clean and maintained in good repair.

Garbage and refuse shall be disposed of often enough to prevent the development of odour and attraction of insects and rodents.

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6.4.6 All buildings, structures and associated facilities shall be insect and rodent proofed, free of vermin before occupancy and shall be maintained free of insects and rodents.

No person shall place, leave, dump or permit to accumulate any garbage, refuse or litter in any building or open site, in a manner that will afford food and harborage for insects and rodents.

7. Food and Food Premises

The purpose is to protect the health and welfare of individuals who consume food produced, processed, prepared or otherwise handled by any food facility. Food poisoning and food-borne diseases are probably the most common causes of illness. In order to eliminate or minimize the risk, the following should be considered:

- 7.1 The floors, walls and ceilings and fixtures of all food premises shall be maintained clean and orderly. Trapped floor drains shall be provided in floors flushed for cleaning or that receive discharges of water or other fluid waste from equipment.
- 7.2 All rooms shall be provided with suitable and sufficient ventilation to keep them free of excessive heat, steam, condensation, vapours and fumes, ensuring a sufficient quantity of fresh air.
- 7.3 All food handlers shall possess valid health certification as required under UAE Labour Law.
- 7.4 At all times during storage, preparation display, transportation and serving, food shall be protected from contamination.
- 7.5 Equipment, utensils and food contact surfaces shall be made of and repaired with safe material. They shall be corrosion resistant, non-absorbent, smooth, easily cleanable and durable. Kitchen and food contact surfaces shall be cleaned and sanitised after each use.

8. Fire Safety

8.1 Fire Service Main

A fire service main shall be provided in all camp facilities, new or existing. The option to provide the minimum standard can be as follows:

8.1.1 mobile vehicle driven water tanker capacity minimum 13500 L, a centrifugal pump capacity, skid or trailer mounted, capacity 227 L/min and 250 m supply of delivery hose (10 lengths of 25 m each) 25 mm internal diameter terminating in a nozzle of internal diameter 19 mm. The nominal discharge of the nozzle shall be 730 L/min. (operation time approximately 18 minutes).

OR

8.1.2 Provide a fire service main. The fire main shall meet the appropriate British Standard or International Equivalent Standard [IES] e.g. NFPA. The size of the pipe for the main shall be minimum 150 mm diameter. The system shall be inspected and tested on a monthly basis by the camp management.

8.2 Means of Escape

Ideally persons should be able to turn their back on a fire and walk away to a place of safety. In the planning stage for the buildings the following factors are to be considered:

- The nature of the occupants (different nationalities/sleeping).

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- Number of people attempting to escape
- The distance they have to travel to safety
- Access to a place of safety

The caravans, which provide a window that can be opened, as well as a door, are preferred. This provides a second option in the event of the exit being obscured or restricted by fire or products of fire.

A single exit door, less than 750 mm, for each unit is acceptable where less than 5 persons occupy the room as long as the travel distance is no more than 9 m. In all other cases the minimum door width is 750 mm. In all areas that occupy more than five personnel; (common areas, canteens, cinemas, etc.) the number of exits shall be sufficient to evacuate the building in 2½ minutes (40 person / minute through each 750 mm door).

8.3 Fire Fighting Preparedness

Camp Managers and their deputies are responsible to ensure that all personnel receive training in the following:

- Action to take in case of fire.
- Arrangements for calling the Civil Defence.
- Means of fighting the fire including chemical & fuel fires.
- Fire control.
- Arrangements for identifying the hazards for fire fighting; particularly chemicals (MSDS Awareness).

A training record is to be kept on all personnel.

8.4 Fire Fighting, Personnel Protective Equipment and First Aid

All sites shall have a First Aid Post. The site shall make arrangements locally, for dealing with medical emergencies and "Notices" shall be displayed so that all staff knows what action to take in the event of an incident. The notice shall include all relevant telephone numbers and be written in all appropriate languages.

In remote operations, it shall be necessary to include the procedure for 'Medevac' stating authority and responsibility for mobilization.

In high risk areas proper PPE shall be provided for those personnel expected or designated as a fire fighting team members.

Where personnel are expected to deal with hydrocarbon fires and are remote from immediate medical response then "Burn Kits" (water jel type) are to be considered. All requirements of the MSDS for chemical first aid shall be provided.

The PPE and first aid equipment shall be checked on a monthly basis by the camp management and a record of such checks shall be recorded and kept by the Manager of site.

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8.5 Fire Warning System

A means of raising the alarm in the event of fire must be provided. A bell, gong or siren manual or manual electric is to be provided. The travel distance that any person has to travel to raise an alarm must not exceed 45 m.

Whether an automatic fire alarm system is provided or manual alternative, the warning device shall be audible in all locations within the camp area. The warning system shall be tested once per week. A practice fire drill shall be conducted once in every three months. One of these drills shall be conducted in during the hours of darkness. A record of such drills shall be maintained by the camp manager and shall be available at all times for inspection by Company.

8.6 Fire Hydrants

All sites, new or existing sites, shall be provided with a hydrant system. The water supply must be of sufficient pressure to provide a 6 m jet of water at the farthest hydrant point from the fire pump. The system shall meet the water flow requirements and provide the minimum 730 L/min. The requirement is to install a fire hydrant within 100 meters of every caravan/unit. The hydrants shall be inspected and tested monthly. A record of such tests shall be maintained by the camp manager and shall be available at all times for inspection by Company.

8.7 Fire fighting Appliances (Portable extinguishers)

Each caravan/unit shall be provided with one portable 9 L (13A) stored pressure water extinguisher (Standard to BS 5423 1987) mounted externally in a cabinet or protective frame, located at the front entrance to the unit. The carrying handle of the extinguisher should be positioned at 1.2 meter height from the floor level. The extinguishers shall be red in colour and any cabinet or shade provision should also be red in colour. Other types of extinguishers shall be provided for the different risks. All extinguishers must be provided with a pictorial design (how to use) instruction label. Each unit must be provided with a maintenance inspection label, which must be of the gum type, (not tied to the extinguisher, but stuck to the extinguisher). The extinguishers shall be inspected and the records shall be available at all times for inspection by Company.

8.8 Fire Fighting Equipment

At each fire hydrant, an equipment cabinet for fighting hoses and nozzles shall be provided. This is termed a fire point. At each fire point there shall be 5 x 25 m lengths of 45 mm delivery hose. A small hand operated brass/nylon/plastic type control nozzle is to be provided. Hoses shall be housed in a box painted red and marked 'Fire Hose' written in Arabic and English or other appropriate language for the occupants of the camp.

All fire equipment shall be inspected and tested on a monthly basis by the camp management. A record of such tests shall be maintained by the camp manager and shall be available at all times for inspection by Company.

8.9 Maintenance

All alarm and fire fighting equipment shall be maintained in working order and tested as required in the sections above. The records of such inspections and tests shall be available for inspection at all times for inspection by Company.

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8.10 Fire Notices (to BS 5499 and 5378 – Pictorial design)

A clearly written and conspicuous notice shall be provided and maintained at each fire point to indicate the action to be taken in the event of fire and the location of the nearest telephone. This notice shall include:

On discovery of fire:

- Ensure the caravan/unit or site building involved is evacuated.
- Raise the alarm.
- Call the site office or Civil Defence.
- Attack the fire using the fire equipment provided when it is safe to do so.

It is expected that all residents and workers, as well as visitors to the site, will be familiar with the above routine and the method of operating the fire alarm and fire fighting equipment.

9. Liquefied Petroleum Gas

In all camps, new or existing, Liquefied Petroleum Gas (LPG) cylinders shall be stored outside under a shaded canopy. Where existing camps have cylinders located in an internal store, bottom and top ventilation is to be provided.

Where there is an existing internal store, the cylinder store shall be accessible direct from the outside without travelling through an internal room. It is essential that the internal wall (adjoining the remainder of the building) of the store is fire resistant to not less than 30 minutes standard (BS 467).

Ventilation of the storage area shall be provided at high and low level and shall be directly to the outside. A notice or the symbol for a gas container locker should be permanently fixed to the outside of the store indicating the presence of gas cylinders. The storage of full and empty cylinders is to be separate.

10. Fuel storage

All fuel storage containers or vessels shall be remote from residential areas. Tanks at risk from lightning strike shall be suitably protected. Warning signs relative to the risk are to be provided.

Portable cans used for the storage of petroleum products shall be kept in a suitable location remote from other flammable liquids, gases or solids.

The delivery valves of tanks shall be in good working order and leaks should not be tolerated. A metal drip tray is to be provided underneath the filling points.

Where a fuel tank is part of an indirect supply system (e.g. to a generator), there should be a means of isolating the fuel from the system. The valve must be clearly marked and indicated.

Where tank supplies fuels to an indoor facility then a fire break wall 60 minutes is to be provided between the tank and the room.



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11. Telephones

A direct line telephone shall be available at all times for calling the emergency services. This facility must be centrally located, conspicuous and all personnel on site are to be notified of the facility. An information sheet (in all appropriate languages) with all emergency contact numbers is to be positioned at each phone location.

12. Electrical Installations

New caravans are generally factory assembled; others may be refurbished locally. It is important that the electrical standards incorporated in the design or installed locally meet the expected demands of the site.

In order to ensure that the equipment is maintained in a safe condition, the camp manager shall ensure that all electrical equipment is examined regularly by a competent person. This shall include provision and testing fuses, residual current devices, earth leakage circuit breakers or similar devices used to connect equipment to the electrical installation to buildings on the site.

All electrical work must be installed and maintained in accordance with Institute of Electrical Engineers (IEE) wiring regulations particularly in relation to the laying of subsurface cables.

The electrical installation shall be inspected at not less than once in every six months and at any other time where changes are made to the building layout or a lease changes ownership.

A qualified electrician shall within one month of the bi-annual inspection issue an inspection report. This report shall be retained by the site operator.

13. General Fire hazards

The following items are to be addressed within a formal Safety program and a record of camp inspections must be available at all times for inspection by Company.

Cooking is not permitted in private rooms. The catering facilities are to be used.

The area underneath the cabins shall not be used for storage.

Flammable materials shall be stored separately in an appropriate metal container and must be clearly labelled.

Where flue/exhaust pipes run through the structure of the cabins e.g. laundry, kitchen, the pipe work shall be adequately insulated.

Carelessly drying clothes cause fires. Coat stands and drying racks shall be firmly positioned at a safe distance from heaters, which should be thermostatically controlled and have enclosed elements.

All heaters and cooking appliances must be installed, and ventilation provided, to manufacturer recommendations. Electrical or gas cookers are to be provided. The use of large portable type gas rings used for cooking are not permitted unless they are fixed to a wall or floor and at the appropriate height for cooking.

Temporary Building(s) should not contain more than the minimum of furniture and fittings made from synthetic materials.

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14. FIRE PREVENTION ON CONSTRUCTION OF CAMP SITES

The Checklist below can be used to accumulate a record of the fire precaution history at a particular new site or existing site undergoing refurbishment. The **CHECKLIST** takes the form of a series of questions, all representing requirements of these Guidelines.

14.1 Purpose of the Check List

A Site Fire Safety Coordinator from the camp operator shall be nominated and asked to find out whether or not fire precautions on a site are comprehensive and adequate in relation to the requirements.

The format of this **CHECKLIST** has been designed to comply with two principal requirements:

The **CHECKLIST** is site specific and in the course of time it will present the complete fire precautions history of a site or building.

The **CHECKLIST** works on a tick-box principle for a satisfactory response to a question, but contains plenty of adjacent space for the person carrying out the survey, whether insurer or site executive, to make notes about findings made in the course of the survey. This is particularly important when checking precautions and working practices in the course of subsequent site re-inspection.

14.2 Re-inspection (by Company)

The date for a re-inspection may depend on the purpose of the re-inspection. It may be a scheduled re-visit to a site where fire precautions are comprehensive and properly applied. It may be that the surveyor makes an early return to re-inspect a problem area. Or it could be that certain works have been carried out to a stage where the site is changing and a reassessment is required.

Whatever the reason, any inspection shall ensure that features, which were satisfactory on the previous visit, are still satisfactory. The Fire Safety Coordinator shall similarly carry out a process of continuous quarterly inspections of the Site Fire Safety Plan.



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ANNEX 1

Check List

1. Site Details:

Address/description:

Name/addresses/Tel. Nos. of:

Contractor – Site manager:

Site Fire Safety Coordinator:

Design Phase fire safety Coordinator (for new sites):

If there are any special or unique design features, unusual materials or uncommon construction methods then it is suggested that they be described on a separate sheet and filed in the CHECKLIST at this point.

2. Design Phase

For new buildings and Relocations

Tick (✓) box for **Yes**

Has a Coordinator been appointed for the Design Phase?

Does the Coordinator understand the full scope of his responsibilities?

3. Construction Phase

Has the Main Contractor appointed a Site Fire Safety Coordinator?

4. The Fire Safety Coordinator

(Operator of the camp or camps)

Has the Fire Safety Coordinator:

– Formulated a fire safety plan?

– Ensured that staff is familiar with the plan and understand it?

– Monitored compliance with the fire safety plan?

– Established a regime of checks and inspections of fire protection equipment and escape routes?

– Established effective liaison with security contractors or staff?

– Written records of checks, inspectors, maintenance work, fire patrols and fire drills?

– Carried out fire drills and analyzed the results?

– Checked the arrangements and procedures for calling the fire Brigade?



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5. Large Sites (in excess of 200 Persons)

On large sites, has the Fire Safety Coordinator:

Appointed fire marshals, deputies/Auxiliary fire teams as appropriate and trained them and delegated responsibilities to them?

Provided site plans for the emergency services detailing the escape routes, fire protection equipment and facilities for the Civil Defence?

6. Fire Safety Plan

Does the fire safety plan detail?

- The organization and responsibility for fire safety?
- The site precautions?
- The means for raising the alarm in case of fire?
- The procedure for calling the fire brigade?
- The means of escape in case of fire?
- The hot work permit scheme? (if appropriate)
- The site accommodation, its use, location, construction and maintenance?
- The points of access and sources of water for the fire brigade?
- The control of waste materials?
- The security measures to minimize the risk of arson?
- The staff training program?



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7. Emergency Procedures

Tick box (✓) for Yes

- Is the mean of warning of fire known to all staff?
- Is it checked routinely and can it be heard in all areas above background noise?
- Are fire instruction notices prominently displayed?
- Is there a method of counting the evacuees?
- Is the Civil Defence access routes clear at all times?
- Have specified personnel been briefed to unlock barriers when the alarm sounds? (If appropriate)
- Have signs been installed indicating fire escape routes and the positions of fire protection equipment?

8. Fire Protection

Have measures been taken to ensure the early installation and operation of?

- Escape stairs (including compartment walls)?
- Lightning conductors?
- Automatic fire alarms?
- Automatic sprinkler systems?
- Hose reels?
- Are fire dampers and fire stopping provided at the earliest opportunity?
- Is steelwork protected as soon as possible?
- Are adequate water supplies available for fire fighting purposes?
- Are all hydrants clear of obstruction?



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9. Portable Fire Extinguishers

- Are adequate numbers of suitable extinguishers provided?
- Are sufficient personnel trained in their use?
- Are extinguishers located in conspicuous positions near exits?
- Are carbon dioxide extinguishers in place adjacent to electrical equipment?
- Do all mechanically propelled site plant carry suitable extinguishers?
- Have procedures been implemented for the regular inspection and maintenance of extinguishers?

10. Site Security against Arson (optional)

- Does site screening protect adequate areas of the site, including all storage areas?
- Is security lighting installed?
- If CCTV is in position; are the screens monitored and/or recorded?
- Is the site checked for hazards at the end of each work period, particularly where hot work has been in progress?

11. Temporary Buildings

- Is the firebreak between the temporary buildings satisfactory?
- If the fire break is less than 6 meters
- Is the temporary building constructed with materials, which will not significantly contribute to the growth of a fire?
- Is the building fitted with an automatic fire detection system?
- If the temporary building is within the building under reconstruction or refurbishment:
- Is it constructed to comply with BS or otherwise made of materials, which will not significantly contribute, to the growth of a fire?
- Is escape for personnel sufficiently easy?
- Do buildings/rooms contain the minimum of synthetic material?
- Is access for the Civil Defence readily available?

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- Is the building fitted with an automatic fire detection system?
- If the floor of the temporary building is raised above ground level, is the space beneath enclosed with non-combustible material?
- If separate buildings contain heaters for drying clothes, are the heaters thermostatically controlled (with enclosed elements) and are drying racks fixed firmly at a safe distance?
- Are all heaters and cookers properly installed and is adequate ventilation provided?
- Are automatic fire and intruder alarms installed in temporary buildings used for the storage of flammable liquids and gases?
- Do temporary buildings contain the minimum of furniture and fittings made from synthetic materials?
- In areas of fire hazard, does a no smoking policy prevail and are there adequate 'No Smoking' signs in place?

12. Site Storage of Flammable Liquids and LPG

Are Containers of Flammable Liquids and LPG Stored in Purpose-Designed?

- Compounds?
- If flammable liquids are not stored in compounds, is the quantity less than 50 liters (or half a day's supply, whichever is less) and is it kept in a fire resistant cupboard or bin?
- Is the storage area at least 10 meter from temporary and permanent buildings?
- If not, are the recommended precautions taken?
- Are cylinders of oxygen and chlorine and containers of similar agents kept separately from flammable liquids and LPG?
- Are the stores properly signed?
- Does the store have a paved or compacted base, and is it clear of weeds and rubbish?
- Is automatic gas detection equipment installed?
- Are suitable fire extinguishers provided at the entrances?

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13. Electricity and Gas Supplies

- Do electrical installations conform to Company, U.A.E. other or International Standard?
- Does a competent electrician undertake all electrical work?
- Are all installations inspected and tested regularly?
- Are all circuits, other than those controlling security devices and security lights, turned off when work ceases?
- Are all gas supplies installed by a registered gas fitter?
- Are all gas supplies in fixed piping or armoured flexible tubing?
- Where gas cylinders are used are they located outside buildings, secured and protected from interference?
- Are flexible links used for LPG supplies only connected by a competent person?

14. Waste Materials

- Are provisions made for the safe storage and removal of waste materials?
- Is there adequate provision for the handling of sewage and water discharge from the site?
- Are checks carried out routinely to ensure that waste materials are not accumulating on the site?
- Are metal bins, with metal lids provided for oily rags?
- Is collected waste, awaiting disposal, kept away from temporary buildings, stores and equipment?
- Is all dry vegetation removed regularly from around the site?
- Is there an absolute prohibition on burning rubbish on site?

15. Plant

- Is all plant with internal combustion engines positioned in well-ventilated, non-combustible enclosures with the exhaust pipes clear of combustible materials?
- Are compressors housed away from other plant?
- Do notices and staff training make it clear that fuel tanks must not be refilled while engines are running?
- Is plant and equipment protected from accidental impact?