FORWARD

1 The Qatar Construction Specifications (QCS) includes references and certain sections which address occupational health and safety. To ensure that the users of the RD/SAMAS are fully aware of where occupational health and safety issues are addressed in the QCS, the following table summarises where potential overlaps may occur. For consistency, it is recommended that in matters relating to occupational health and safety reference is made first to the RD/SAMAS. For the purpose of clarity, however, references are made in the relevant section of the RD/SAMAS to their comparable sections in the QCS and vice versa.

2 The purpose of QCS is to provide as a general technical guide for acceptable construction work practices in the State of Qatar, considering this; any addition for technology, material, specification, standard that are not mentioned in this section or their modification, shall be subject to approval as stated in the introduction of QCS (00-02).

Sr. No	QCS Section No.	Part No.	Part Name	Item No.	Item Name
1	1	7	Submittals	7.5.2	Health and Safety Organization Chart
2	1	7	Submittals	7.6.1	Health and Safety Plan
3	1	10	Health and Safety	All	All
4	1	11	Engineer's Site Facilities	11.4.6	Safety Equipment and Clothing
5	1	14	Temporary Works and Equipment	14.4	Test Certificates for Cranes and Lifting Tackle
6	1	15	Temporary Controls	All	All
7	1	16	Traffic Diversions	16.1.3	Safety
8	1	8	General	8.1.6	Safety
9	3	1	General	1.4.12	Safety and Management
10	4	1	General Requirements for Piling Work	1.6	Safety
11	4	4	Deep Foundations	4.9.1.7	Safety Precautions
12	4	4	Deep Foundations	4.9.1.13	Protection of Testing Equipment
13	6	1	General	1.6	Temporary Fencing
14	6	7	Asphalt Plants	7.8.13	Safety Requirements
15	6	14	Works in Relation to Services	14.2.2	Safety
16	8	1	General	1.3.2	Health and Safety
17	8	8	Painting and Protective Coatings	8.1.9	Safety
18	8	9	Trenchless Pipeline Construction	9.2.5	Safety Requirements
19	8	10	Pipeline Cleaning and Inspection Survey	10.1.7	Safety Requirements
20	8	11	Sewer Rehabilitation	11.2.2	Safety
21	9	1	General	1.2.8	Safety Guards
22	9	1	General	1.2.16	Noise Levels and Vibration
23	19	5	Hot Water Storage	5.1.6	Safety
24	21	1	General Provisions for electrical Installation	1.1.11	Fire and Safety Precautions
25	21	1	General Provisions for electrical Installation	1.1.23	Safety Interlocks
26	24	1	General	1.1.4	Scaffolding
27	29	1	Design Aspects	1.1.5	Fire Resistance Period
28	29	3	Geotechnical Specifications	2.3.1.5	Safety
29	29	4	Tunnel	4.5.8	Safety Regulations
30	29	4	Tunnel	4.5.9	Fire Prevention
31	29	4	Tunnel	4.6.4	Safety Measures and Systems
32	29	7	Concrete Structures	7.1.10	Safety Railing

Construction Site Safety

1.6.1 Incident Prevention and Control

1.6.1.1 Key points

1 The construction industry consistently accounts for a disproportionately high number of fatalities and major incidents.

2 Everyone on site has their part to play in incident prevention.

3 Incident prevention has to be actively managed; a good safety record will not 'just happen'.

4 Reported details of incidents show that in the vast majority of cases the incident could easily have been prevented by taking simple precautions.

5 You may have no influence over these decisions but find that you need to challenge the health and safety implications that arise as a consequence of them.

6 The true 'cost of an incident' encompasses many considerations and goes way beyond the financial implications.

7 Statistics show that new starters on site, and those at both ends of the age spectrum, are the most prone to incidents.

1.6.1.2 Definitions

1 There are many interpretations of the words ' Incident /Hazard/Risk', but it is generally agreed that the following definitions apply:

2 **Accident** is an unplanned, unscheduled, unwanted event or 'occurrence', or any undesired circumstance which may result in injury to persons and damage to property. The injured person may not be an employee and property may not belong to a Contractor.

3 **Hazard** is the potential to cause harm, including ill health and injury; damage to property, plant machinery or environment; production losses or liabilities.

4 **Risk** is the likelihood that a specified undesired event will occur due to the realisation of a hazard by or during work activities or by products created by work activities.

5 An alternative word that is sometimes used for an accident is 'incident'. The main difference in the use of this word is that an incident is something that happened which may or may not have resulted in an injury or damage.

6 The problem with the Bird's triangle theory, and most of the other accident reduction models, is that frequently an incident can occur which results in no injury or even particular loss. However, the same incident under a slightly different set of circumstances could be a fatal accident. This makes accident prevention more difficult, particularly if the incidents go unreported.

References:

1 Refer to Section 11 – Part 1 – 1.8.1 – Sources of Health and Safety Information.

2 The following Standard are referred to in this part of specification:

Labor Law 14 Article (86) …….A child who has not attained the age of sixteen may not be Employed in a workplace

1.6.1.3 Duties of the Contractors

1 The scope of Contractors responsibilities under this Regulatory Document is both wide and demanding. Some of these duties are detailed below.

1.6.1.4 The Health and Safety at Work

2 Contractor's duties include:

(a) It shall be the duty of every Contractor to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

(b) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;

(c) arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances;

(d) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;

(e) so far as is reasonably practicable as regards any place of work under the Contractors control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

(f) the provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe without risks to health, and adequate as regards facilities and arrangements for their welfare at work.

(g) It shall be the duty of every Contractor to conduct his undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in his employment who may be affected are not thereby exposed to risks to their health or safety.

1.6.1.5 The Management of Health and Safety at Work

1 These Regulations require that all Contractors carry out a risk assessment of all work operations and workplaces.

2 Furthermore, the Contractors must:

(a) put into operation whatever preventative and protective measures are necessary, and take effective steps to monitor these measures

(b) provide information both to employees and those not employed by him as to the risks to health and safety generated by his operations

(c) provide adequate training:

(i) upon recruitment

(ii) when new processes are introduced

(iii) when new work equipment is installed

(iv) when new systems of work are introduced.

3 Refresher training should be carried out during working hours.

1.6.1.6 Personal Protective Equipment

1 Every Contractor must:

(a) ensure that PPE is available, is compatible with and appropriate for the risk

(b) carry out assessments for risks to health and safety

(c) carry out periodic reviews of those assessments

(d) ensure that any PPE is maintained and properly stored when not in use

(e) give adequate training, information and instruction

(f) take steps to ensure that any PPE supplied is properly used

(g) provide any necessary PPE free of charge.

1.6.1.7 Provision and Use of Work Equipment

1 Contractors must ensure that:

(a) the work equipment provided is suitable for the purpose for which it is to be used

(b) it is only used for the purpose it is intended

(c) it is maintained in good working order

(d) equipment logs are maintained, where necessary

(e) the use of equipment is restricted to those so designated

(f) repairs are only carried out by trained and competent personnel

(g) any necessary maintenance or inspections recommended by the manufacturer are carried out

(h) persons who are required to operate the equipment have received adequate information and training

(i) safe systems of work are implemented and followed

(j) maintenance can be done safely

(k) controls are fitted to the machine.

1.6.1.8 Lifting Operations and Lifting Equipment

1 All Contractors must ensure that:

(a) all lifting operations are properly planned by a competent person, are appropriately supervised and undertaken in a safe manner

(b) each selected item of lifting equipment is suitable for the intended purpose, and is of adequate strength and stability for each load

(c) the lifting equipment is positioned and installed to minimise the risk of:

(i) the equipment or load striking personnel

(ii) the load drifting, falling or being unintentionally released

(d) an examination schedule is drawn up by a competent person and that all lifting equipment is thoroughly examined:

(i) before being used for the first time, following installation or assembly at a new location

(ii) every six months for lifting accessories (abseil ropes/harnesses, chains, slings, and so on) and equipment used to lift people; or

(iii) every 12 months for other lifting equipment

(iv) after any activity or event liable to jeopardise its integrity

(e) suitable equipment is installed to prevent anyone falling down a hoistway or shaft.

2 If the equipment is to be used for lifting people, the Contractors must ensure that:

(a) people cannot be crushed, trapped, struck or fall from the carrier

(b) the equipment has devices to prevent a carrier from falling

(c) if a person becomes trapped in a carrier, they can be freed.

1.6.1.9 Manual Handling Operations

3 Every Contractor must:

(a) ensure that employees avoid risks to health and safety when manual handling

(b) make an assessment of all lifting operations

(c) take steps to eliminate injuries

(d) give information with regard to weights and centres of gravity of items to be handled.

1.6.1.10 Workplace Disability Awareness

1 Where people with a disability are employed on site, even, for example, administrative staff in site offices or staff in catering facilities, this is a part of the accident prevention process Contractors may have to consider the appropriate safety management steps to be taken to ensure the safety of employees who have a disability, based upon the findings of a risk assessment.

2 Examples of such steps might be:

(a) the provision of a disabled toilet

(b) Providing assistance for employees with hearing difficulties who may not be aware of alarms

(c) ensuring the effectiveness of site induction for those who have hearing problems or learning difficulties

(d) considering the needs of people with physical disabilities with regard to access to site offices and other areas

(e) the provision of appropriate evacuation equipment for evacuating people with physical disabilities from site offices and other areas

(f) emergency escape routes that can be used by people with disabilities and, where appropriate, those assisting them.

1.6.1.11 Duties of employees

1 Responsibilities of employees as follows.

2 It shall be the duty of every employee while at work:

(a) to take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at work: and

(b) as regards any duty or requirement imposed on his Contractors or any other person by or under any of the relevant statutory provisions, to co-operate with him so far as is necessary to enable that duty or requirement to be performed or complied with.

(c) No person shall intentionally or recklessly **interfere with or misuse** anything provided in the interests of health, safety or welfare in pursuance of any of the relevant statutory provisions.

1.6.1.12 Manual Handling Operations

1 All employees must make full and safe use of systems of work implemented by their Contractors.

1.6.1.13 Personal Protective Equipment

1 Employees must report any loss of, or any defect in, personal protective equipment.

1.6.1.14 Control of Substances Hazardous to Health

1 Employees must:

(a) make full and proper use of any control measure put in place to prevent harmful exposure to a substance

hazard to health

(b) report the fact to the Contractors if the control measure is thought to be defective.

1.6.1.15 Work at Height

1 Employees must:

(a) report to the Contractors (or supervisor) any work activity or defect which is thought could endanger the safety of anyone who is working at height

(b) use any work equipment (including safety devices) provided for safe working at height in accordance with any training and instructions provided.

1.6.1.16 Planning for health and safety

1 Despite the effort made by the majority to fulfil their legal, moral and social obligations, difficulties are often encountered in human behaviour which require time and tolerance before acceptable safety standards are achieved. It is essential that careful consideration is given to pre-planning, communication, training, supervision and the dissemination of information, if safe systems and places of work are to be developed and maintained.

2 The following measures are required for the prevention of incidents and the implementation of safe systems of work and procedures:

(a) Allowing enough money and time to do the work safely.

(b) Adequate protection and guarding of working places, platforms, machinery, tools, plant and equipment.

(c) Implementation of an adequate system for the inspection, maintenance and repair of plant, equipment and tools.

(d) Provision of appropriate training, instruction and information at all levels, as well as confirmation of competency after training including safety training.

(e) Provision of adequate supervision and control and training of supervisors in H&S requirements.

(f) Displaying the appropriate notices and warning signs.

(g) Planning, siting and/or stacking materials and equipment to allow safe access or egress of site plant, vehicles and equipment.

(h) Pre-planning and organisation of site layout which will provide maximum efficiency, safety and progression of the work sequences and operations.

(i) The provision of adequate resources and equipment to protect and maintain the health and welfare of all personnel.

(j) Producing, declaring, maintaining and supporting a safety policy, updating as appropriate to accommodate advancement and development.

(k) Bringing about and maintaining an awareness of, and compliance with, all safety legislation and information relating to systems and procedures of work.

(l) H&S shall be included in the project budget as well as ensuring the all necessary staff, equipment, training, and other requirements are planned and budgeted for.

1.6.1.17 Factors which affect safety at work

1 Safety at work will be affected by:

(a) human and personal factors (characteristics)

(b) job factors

(c) environmental factors.

(d) organizational factors

1.6.1.18 Human and personal factors

1 Characteristics of people at work often play an important part in the prevention of incidents. Human and personal factors (characteristics) must be assessed and accounted for in safe work procedures.

2 Characteristics that shall be addressed include:

(a) age
(b) general health
(c) physique and ability
(d) disabilities, if any
(e) senses of smell, sight, hearing, touch and, sometimes, taste
(f) natural dexterity, agility
(g) education and qualifications
(h) training and skills
(i) home and social life
(j) status at home and work
(k) position in peer group.

1.6.1.19 Job factors

1 Job factors must be assessed and accounted for in safe work procedures.

2 Job factors which shall be assessed include:

(a) the adequacy of time and resources to plan the job
(b) adequacy, time and resources to do the job
(c) provision of tools and equipment which are safe to use and properly maintained
(d) implementation of safe systems of work
(e) personnel who are unfamiliar with established safe systems of work and practices
(f) personnel who are new to a specific worksite or unfamiliar with a new working environment
(g) those lacking induction training and/or experience
(h) the provision of adequate training, information and supervision
(i) balanced workload
(j) fatigue and boredom
(k) the nature of the activity.

1.6.1.20 Environmental factors

1 Environmental factors must be assessed and accounted for in safe work procedures.

2 The following details shall be considered:

(a) weather conditions - hot, cold, wet, windy
(b) working at heights, in confined spaces or underground
(c) working conditions - noise, dust, light, ventilation
(d) health and welfare facilities.
(e) air quality including presence of toxic fumes or vapors

(f) poor housekeeping

(g) location and people / traffic in work area

(h) use of personal protective equipment (PPE) that may affect senses of the worker.

1.6.1.21 Hazards

1 Types of hazard include:

(a) obvious dangers

(b) potentially dangerous situations, often resulting from late changes to planned activities, forced by unforeseen circumstances

(c) operational hazards, including high risk activities and operations creating health hazards or risk of injury.

1.6.1.22 Obvious dangers

1 Examples of dangerous conditions which may exist at the workplace include:

(a) failure to comply with safe systems of work

(b) the presence of highly flammable material and other fire hazards

(c) dangerous materials - acidic, radioactive, corrosive and gaseous

(d) insecurely stacked, slung, lifted and transported loads

(e) unsafe machinery, equipment and tools

(f) unsafe working area due to weather conditions

(g) unsafe electrical, dust and gaseous conditions.

1.6.1.23 Potentially dangerous situations

1 Examples of circumstances which might result in an accident:

(a) personnel entering a new workplace for the first time

(b) personnel uninformed/unaware of emergency procedures

(c) working with machinery or tools with guards or fences removed

(d) unauthorised repair to plant and equipment

(e) adopting incorrect methods of lifting and handling loads

(f) use of incorrect type of plant, tools or equipment for the work involved

(g) unauthorised removal of guard-rails, or failure to replace them following removal for access of plant or materials

(h) inadequate clearance around moving plant or equipment (minimum 500 mm)

(i) transport of insecure or unstable loads

(j) dropping tools and materials from a height

(k) unauthorised improvisation

(l) failure to wear PPE

(m) spillage of oil, grease, paint, flammable and corrosive liquids

(n) working in unstable excavations, without adequate supervision and control

(o) untidy working places

(p) congested walkways and areas -creating a tripping hazard

(q) working at heights or over water without edge and/or personal protection

(r) inadequate, incorrect or badly placed lighting

(s) overhead carriage of materials

(t) uncontrolled release of dangerous gases, steam, compressed air

(u) unsafe electrical equipment

(v) buried services and overhead cables.

1.6.1.24 Operational risks

1 Examples of work that require competence, careful monitoring and/or close supervision are listed below.

2 High risk activities:

(a) demolition

(b) anything involving tower cranes

(c) working at heights

(d) work involving explosives

(e) excavations

(f) piling

(g) work in confined spaces

(h) operating cranes, lifting equipment and other moving plant

(i) steel erection or sheet material cladding

(j) steeple jacking and other rope access activities

(k) use of chemicals or other substances for which the manufacturer has advised strict control and usage

(l) work associated with live traffic.

3 Operations creating health hazards or risk of injury:

(a) work with lasers

(b) jobs with continual high exposure to noise or vibration

(c) jobs with continuous elements of the same type of manual handling such as block laying, kerb laying

(d) work with asbestos and other toxic dusts

(e) work with hazardous substances

(f) work involving radiography

(g) work involving exposure to extremes of hot or cold.

4 Activities which are tedious, repetitive, carried out in extreme climatic conditions, demand long periods of concentration or are physically tiring may require:

(a) careful selection of personnel

(b) consideration of medical history of personnel involved

(c) pre-planning and sequence of operation

(d) frequent shift changing

(e) use of mechanical handling aids.

1.6.1.25 The implications of in-experience

Young persons

1 In accordance with Labor Law 14 Article (86), a child who has not attained the age of sixteen may not be employed in a workplace of whatsoever nature and shall not be permitted to enter into any place of work such as a construction site.

2 A 'young person', is any person who is between the age of sixteen but has not reached the age of eighteen.

3 Contractors are to ensure that ALL young persons they employ are protected at work from any risk to their health or safety.

4 Before employing a young person, the Contractor must assess the risks to the young person's health and safety arising from the work they are required to do, in accordance with these Regulations. This assessment must take account of a number of factors, such as:

(a) the inexperience and immaturity of young persons, and their lack of awareness of risks

(b) the type of any work equipment involved and the way it is used

(c) the potential for exposure to physical, biological and chemical agents

(d) any health and safety training that is required for young persons.

5 Having carried out this assessment, Contractors must then determine whether the level of risk has been reduced to as low as is reasonably practicable. There is particular importance placed on avoiding work that:

(a) is beyond the young person's physical or psychological capacity

(b) involves harmful exposure to agents which are toxic or carcinogenic, cause heritable genetic damage or harm to the unborn child or which in any way chronically affect human health

(c) involves harmful exposure to radiation

(d) involves the risk of accident, which it may be reasonably assumed cannot be recognised by young people owing to their insufficient attention to safety or lack of experience or training

(e) involves exposure to physical agents such as extreme cold or heat, noise and vibration.

6 Consideration to the level of acceptable risk may be given for young persons between the ages of sixteen and eighteen, where the work is necessary for their training, and where they are properly supervised

New starters

7 New starters on a site and inexperienced persons, of whatever age, have similar problems to those of young workers.

8 They are subjected to a new environment, rules, methods and procedures; under different supervision; working with new colleagues using a variety of tools, equipment and manual effort to produce the work required. The start of their health and safety training is usually an induction into the company that should cover the following:

(a) responsibility of management and supervision

(b) company safety policy

(c) health, welfare facilities, pattern of work, movement of materials, direction of movement, and so on

(d) warning signals and signs

(e) special processes, materials, precautions and restrictions

(f) fire procedures, drills, alarms, escape routes

(g) reporting hazards

(h) good housekeeping

(i) first aid procedures and the reporting of accidents

(j) safety equipment and clothing

(k) machinery hazards

(l) introduction to supervisor, trainer, colleagues

9 The need for refresher and continuance training should be reviewed at intervals and carried out as necessary.

Older workers

10 It should be noted that the number of incidents to older workers is typically higher than average. There are various reasons which have been suggested, such as:

(a) over familiarity with the job

(b) general slowing of reactions

(c) general loss of strength and flexibility

(d) pre-existing damage to body and systems

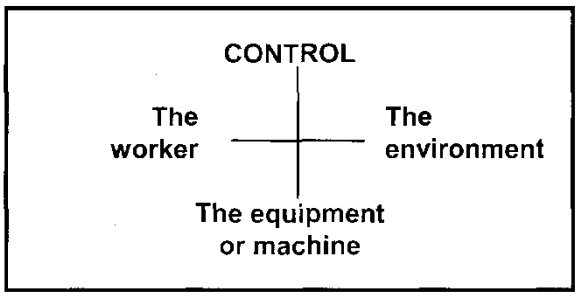
(e) age-related degeneration of hearing and eyesight

11 What is also noteworthy is that when an older person is injured, often the recovery time is longer, because the injury is more severe than it would be for a younger person. The classic example is a fall from height. A young person may well have the speed and strength to avoid the fall, and if they do fall they often seem to land better and do less damage. With the older person, the fall seems more inevitable, the landing harder and the recovery time longer.

1.6.1.26 Accident prevention

Supervision and control

1 The accident trend can be strongly influenced by providing adequate training and supervision to control the worker, the machine or the equipment and the working environment.



Accident prevention is the control of these factors

The worker

2 It is essential to ensure that the worker:

(a) is adequately trained and informed of the activities they are expected to do

(b) is aware of all the hazards in any activity they are expected to do

(c) is competent to do the work or is under adequate suitably qualified supervision

(d) adopts a safe system of work

(e) uses the protection provided

(f) is aware of accident and emergency procedures

(g) is aware of the company's health and safety policy in addition to rules applicable to the work.

The working environment

3 This applies to all areas of the site including workshop, stores, offices, depot and welfare facilities.

4 Regular checks are essential to ensure:

(a) floors are clean and level, not slippery, and free from debris

(b) stairs, gangways and working platforms are adequately guarded and maintained

(c) openings, edges and holes are adequately protected

(d) projecting objects or obstacles are protected and guarded

(e) adequate lighting is provided at workplaces

(f) materials and equipment are stacked or stored correctly

(g) approved warning signs are displayed where required or where hazards exist

(h) there is adequate ventilation, protection and control when working in confined spaces

(i) there are established systems of waste disposal

(j) passages and escape routes are clearly defined, and marked KEEP CLEAR

(k) there is provision and maintenance of adequate welfare facilities

(l) best possible standards in working conditions are provided

(m) safe systems of work are maintained

- there is adequate fire-fighting equipment and extinguishers, which are properly sited
- an adequate level of security is established and maintained to prevent unauthorised visitors.

Equipment and machines

5 Ensure the following procedures and practices are observed:

(a) regular inspections by trained, competent persons

(b) no defective equipment is used

(c) defects are properly rectified

(d) adequate servicing and maintenance

(e) records and reports maintained

(f) all moving parts adequately guarded or protected

(g) manufacturers' literature and instructions available for operatives

(h) proper handling, lifting and slinging of equipment

(i) equipment and machines adequately secured when in use and parked

(j) hand tools inspected and maintained.

1.6.2 Accident Reporting and Investigation (RIDDOR)

1.6.2.1 Key points

1 All workplace incidents, no matter how minor, shall be reported to the injured person's Contractors, site manager or supervisor.

2 Certain types of incident, cases of occupational diseases (when connected with specific work activities) and some dangerous occurrences, must be reported to the Qatar Administrative Authority. Using F100 (Appendix A)

3 Each Contractor shall have a procedure for investigating workplace incidents.

4 The investigation of accidents will enable trends to be established and preventative measures put in place.

5 The level of investigation should be proportionate to the seriousness of the accident.

6 All incidents shall be investigated and in accordance with the guidance in Section 2.3.08.

1.6.2.2 Introduction

1 Deaths, serious injuries and dangerous occurrences shall be reported immediately, and less serious injuries within 10 days. Certain occupational ill-health issues and diseases also have to be reported.

1.6.2.3 Incident records

1 Records shall kept and may be stored in any medium, including electronic, providing that printable copies are readily available if required.

2 Records shall include details of:

(a) date, time and place of incident

(b) name and job of injured or ill person

(c) details of injury/illness and what first aid was given

(d) what happened to the person immediately afterwards, e.g. went home, to hospital, back to work

(e) name and signature of the first aider or person dealing with the incident.

3 Details of an incident should be recorded by the injured person, but can be completed by any employee.

1.6.2.4 The Reporting of Injuries, Diseases and Dangerous Occurrences

1 The Reporting of Injuries, Diseases and Dangerous Occurrences shall be in accordance with RIDDOR (Section 2.3.08) and requires the following to be reported directly to the appropriate Qatar Administrative Authority:

(a) fatalities and major injuries

(b) injuries resulting in incapacity for more than seven days when linked to certain work activities

(c) specified diseases

(d) dangerous occurrences.

2 People covered by these Regulations include:

(a) employees including trainees

(b) self-employed

(c) other people who have been injured.

1.6.2.5 Reporting deaths, major injuries and dangerous occurrences

1 These Regulations place a duty on the Contractor to make reports to the Consultant/client. In the case of employees, the responsible person will be the Contractors. In the case of the self-employed or a member of the public, the responsible person will be the person in control of the site where the event occurred.

2 All subcontractors must notify both the Consultant/client and the Contractor of any reportable accidents.

3 Where an accident, occupational disease or dangerous occurrence takes place that requires reporting under RIDDOR

4 Contractors shall send reports by post to the competent authority:

5 The following must be reported immediately to the Administrative Authority by the quickest practical method (usually by telephone) and a report submitted on the approved form (F100) within 10 days:

(a) death of any person as a result of an incident at work

(b) an incident to any person at work resulting in major injuries or serious conditions specified in these Regulations (see list below)

(c) any one of the dangerous occurrences listed in these Regulations (see summary opposite).

Note: *A fatality cannot be registered without a properly completed death certificate.*

1.6.2.6 Other reportable injuries and deaths

1 The following must be reported to the Administrative Authority within 10 days on an approved form (F100). A copy of the form is reproduced at Appendix 3.

(a) Any accident at work where, because of an injury, a person is incapacitated for work of their usual kind for more than three consecutive days, not counting the day of the accident, but counting rest days, weekends, and so on.

(b) The death of an employee, if it occurs within one year of the date of the reportable injury, even though the injury has been previously reported.

(c) Any injury caused by a work activity to someone who is not at work that results in them being taken to hospital by whatever means, e.g. a taxi, ambulance or private car, for treatment of that injury. This would include all members of the public.

1.6.2.7 Keeping records

1 Records of all reportable deaths, injuries and dangerous occurrences shall be kept for a period of three years. No precise method is prescribed, but a photocopy of the approved form is acceptable, as are electronic databanks and computer storage. If an 'in-house' incident form is designed to record the same details as the approved form, it is acceptable.

2 The minimum particulars that shall be kept are:

(a) the date and time of the incident or dangerous occurrence

(b) the injured person's details:

(i) full name and occupation

(ii) nature of the injury

(c) in the event of an incident to a non-employee:

(iii) full name and status (for example passenger, customer, visitor or bystander)

(iv) nature of the injury

(d) the place where the incident or dangerous occurrence happened

(e) a brief description of the circumstances in which the incident or dangerous occurrence happened

(f) the date on which the event was reported to the Administrative Authority

(g) the method by which the event was reported.

1.6.2.8 Calculating the incidence and frequency rates of accidents

1 From Contractors accident records and other statistics, it is possible to calculate the incidence and frequency rates for accidents at a particular place of work and for the types of injury, severity or duration.

Accident incidence rate (AIR)

2 The incidence rate is based on the number of accidents, taken over a fixed period, per 100,000 employees.

$$\text{Incidence rate} = \frac{\text{Number of reported injuries in a year} \times 100{,}000}{\text{Average number of employees in a year}}$$

3 For example, if during a 12-month period there were six reportable accidents and during that year the company employed an average of 120 employees, the calculation would be:

$$\frac{6 \times 100{,}000}{120} = 5{,}000$$

4 The following formula is also used to calculate the incidence rate, particularly when the number of employees is small.

$$\text{Incidence rate} = \frac{\text{Number of reported injuries in a year} \times 1{,}000}{\text{Average number of employees in a year}}$$

Accident frequency rate (AFR)

5 The accident frequency rate allows a calculation to be made that balances the number of reportable accidents that occur against the number of hours worked.

$$\text{Frequency rate} = \frac{\text{Number of injuries in a period} \times 1{,}000{,}000}{\text{Number of hours worked in that period}}$$

6 For example, if a company had five reportable injuries in a period during which its 260 workers worked a total of 125,000 hours, the accident frequency rate would be:

$$\frac{5 \times 1{,}000{,}000}{125{,}000} = 40$$

7 Therefore, when comparing the figures of different companies, care must be taken to ensure that the same multiplier is used.

1.6.2.9 Analysis and presentation of data

1 To visualise trends more clearly, accident statistics are often displayed as bar charts, histograms and graphs.

2 The proper and effective reporting of accidents, along with their thorough investigation, can have major benefits for a Contractor. A Contractor might consider that they could:

(a) reduce costs by that the Contractor has a pro-active implementing change and preventing accidents

(b) identify training needs which will also improve performance

(c) show Qatar Administrative Authority, Workplace Inspectors their approach to safety

(d) satisfy stakeholders that their workforce is properly trained and totally safety orientated

(e) benefit from a possible reduction of insurance premiums following years of hard work to reduce accidents.

1.6.2.10 Incident investigation

1 An effective investigation shall:

(a) be factual and without bias

(b) clearly show the sequence of events leading to the incident or incident

(c) identify the immediate cause

(d) identify the underlying cause, e.g. unsafe acts or conditions

(e) show the root cause, e.g. lack of supervision, training or monitoring.

2 By discovering all causes, especially root causes, you will be able to learn from accidents and incidents and then aim to prevent re-occurrences.

1.6.2.11 Incident procedure

1 The procedure below is given as general guidance and outlines the steps that should be taken immediately after an accident:

(a) attend to the injured person, call for assistance if necessary and arrange for first aid, doctor, ambulance, hospital

(b) isolate machine, tools or equipment

(c) do not disturb or move anything unless to release an injured person

(d) inform the manager, safety adviser, safety representative and other appropriate persons (such as the Workplace Inspectors, Fire Officers or Insurers)

(e) ensure any remaining hazard is guarded against

(f) take notice of anything significant and make general observations at the scene of the accident.

1.6.2.12 Conducting an investigation

1 It is not usually practical to investigate every minor accident, but those involving major or serious injuries to persons and major damage to plant or equipment should be thoroughly investigated so that immediate action can be taken to prevent a recurrence. The following headings may be useful as a guide to the steps to be taken:

(a) investigate promptly

(b) record evidence

(c) identify types of evidence, e.g. factual, corroborative

(d) interview the injured person, if possible

(e) question the person in charge and other supervisors

(f) obtain details of the injured person's job and what they usually or normally do

(g) interview witnesses

(h) inspect plant for signs of misuse or defects

(i) establish the full sequence of events

(j) ascertain the nature and extent of the injury or damage

(k) complete the accident report and the accident book

(l) notify the appropriate authorities.

1.6.2.13 Investigate promptly

1 The sooner an investigation is started, the better - provided it is safe to do so.

2 Engineers and supervisors will be anxious to find ways and means of repairing the damage to plant, machinery or buildings, but the *first priority* should be to establish the cause of the accident. Safety specialists, managers and safety representatives will be concerning themselves solely with the safety implications and preventing a recurrence.

3 It is important that the investigation is properly supervised and organised.

4 Where the Police, Fire or Workplace Inspectors wish to investigate, any other persons responsible for, or involved in investigating, the accident must take extreme care not to disturb possible evidence at the scene.

1.6.2.14 Recording evidence

1 Statements from witnesses should contain such details as their age and occupation. The time, date and place of interview should be indicated at the end of the statement.

2 Witnesses' statements should always be written in their own words, even if these include slang or expletives.

3 The completed statement should be read to the witness and, ideally, signed by them and by the person who took the statement.

1.6.2.15 Identifying the types of evidence

1 Evidence will usually include:

(a) statement of witnesses and others given orally, or in writing. 'Others' may include experts who, for example, might have been called in to examine a machine or the state of a scaffold

(b) documentation of all kinds

(c) material exhibits of all kinds.

2 **Factual evidence** comprises the facts related by persons directly involved, and by witnesses who are able to say what they felt, saw, heard, or give an expert opinion. This type of evidence is primary, direct and positive and should be written in simple language, keeping to the facts and avoiding inferences, opinions and beliefs. The facts should be recorded clearly, accurately and in sequence.

3 The best witnesses are those persons directly involved who are able to:

(a) listen carefully to the questions

(b) answer directly, fairly, impartially and truthfully

(c) state clearly when they do not know the answer

(d) remain calm when they are being asked questions.

4 **Material evidence** includes, for example, equipment, machines, scaffolds, ladders or hand tools, where the use of or the state or condition of the item has a bearing on the accident.

5 **Corroborative evidence** tends to support the truthfulness and accuracy of the evidence which has already been given. The confirming evidence may take the form of site records, plant or maintenance records, warning notices, written procedures, reports made by safety officers etc.

6 **P**eople in the vicinity of an accident should be asked to give an opinion. In this way a full picture can be built

up of the circumstances of the accident.

7 Experts, or specialists, who are familiar with the type of accident, or technical and other factors surrounding the accident, may be called upon to express their *expert* opinions.

8 When there is a lack of real or factual evidence, other forms of evidence such as circumstantial and corroborative evidence tend to become more valuable.

9 **Photographs** taken immediately after an accident record the state of the scene and often highlight conditions which existed at the time. Machines, equipment, tools and obstructions, and factors such as floor conditions, space and dimensions, may show up very well on photographs.

10 If possible, it is best to engage professional photographers and to obtain the largest possible prints. Time, date and place or subject photographed should be written on the back of the pictures.

11 Too many photographs are far better than too few, and it is a good idea to make drawings of the area where the incident happened.

12 Digital photography may not be accepted as primary evidence but may be suitable as supportive evidence.

13 Procedures should be in place to ensure that photographs have not been, or cannot be, computer-enhanced as this would destroy their value as evidence.

1.6.2.16 Interviewing the injured person

1 Interviewing the injured person should be an early priority. Even the briefest description of the accident should suffice initially.

2 The physical and mental state of the injured person will need to be considered, and tact and patience required during the interview. The injured person should be fit to answer questions.

3 The injured person should be encouraged to talk about how the accident happened and it is important they have confidence and trust in the listener. It is important to stress that the purpose of the investigation is to find the cause so that preventive action can be taken. Blame should not be apportioned.

4 Questioning should not take the form of an interrogation. Someone well known to the injured person is probably the best person to do this. Safety officials are more likely to receive the co-operation of an injured person if they are able to demonstrate a genuine interest in their welfare and recovery. This may involve visiting the injured person, with the doctor's approval, in hospital or at home.

1.6.2.17 Questioning the person in charge

1 Establish from the injured person, manager, supervisor or the person in charge, what the normal job and tasks of the injured person were. Did they include the activity which led up to the accident? Other questions which might be asked include:

(a) what task or type of job was being performed?

(b) was it planned or part of a planned activity?

(c) at what stage of the work did the accident occur?

(d) was the person involved trained, and if so, when?

(e) was the person authorised to carry out that type of work or use machinery in that location?

(f) was the person authorised to be where the accident occurred?

(g) what instructions had been given?

(h) how many other persons were involved, or should have been involved, in the activity?

(i) was the activity or task covered by any these Regulations?

(j) were safe and correct procedures being observed?

(k) did unsafe acts cause the accident? If so, were they those of the injured person, workmates, or others?

(l) did any unsafe condition contribute to the accident?

(m) what safety equipment or personal protection was available and in use?

(n) were other contractors' employees or plant and machinery involved or at fault?

(o) had the injured person been involved in previous accidents?

(p) who was supposed to be supervising the work activity?

1.6.2.18 Interviewing witnesses

1 Skill is required when interviewing. Witnesses should be interviewed one at a time. If they wish to say anything before notes are taken, they should be allowed to do so.

2 Interviewers should seek answers to the following basic questions:

(a) what did the witness actually see or hear?

(b) what was the witness doing at the time?

(c) what was the proximity of the witness to the accident or occurrence?

(d) what actions did the witness take?

(e) what actions did others take before and after the accident?

(f) what was the condition of the workplace at the time?

(g) what hazards or unsafe conditions existed and what unsafe acts were performed?

(h) what was the probable cause(s) of the accident or occurrence?

3 Skilled interviewers allow witnesses to tell things in their own way, intervening only to clear up specific points or answers where necessary. Questions should be impartial, and should be recorded together with the answers.

4 It is quite acceptable to go through an incident with a witness making rough notes and then to take a statement after that. That way, the witness often has more chance to remember and sometimes provides far more detail on the second run through.

5 Many witness statements are taken by the interviewer rather than written by the witness, and this would normally be agreed during the interview.

6 It is common for certain details to differ in witnesses' accounts, and it would be suspicious if they were identical, but there should be agreement about basic facts if the true cause of an accident or occurrence is to be determined.

7 The important witnesses are those persons involved. Their evidence will be more valuable than evidence from witnesses who saw or heard only from a distance, although they, too, should be interviewed. Corroborative evidence and information is often required, particularly when witnesses are few or are not reliable.

8 As much evidence and information as possible should be collected, since the action taken to prevent a recurrence will be based on what is learned.

1.6.2.19 Inspection of plant for misuse or defects

1 Inspection of plant, equipment, tools and machinery immediately after an accident may reveal signs of misuse, or defects, which may or may not have contributed to the accident. The scene should also be carefully examined to see if trip hazards, slippery floors, or some other defect contributed to, or caused, the accident.

2 Assistance from specialists and persons directly involved or familiar with the type of plant, equipment, or machinery in question can provide valuable information.

1.6.2.20 Establish a sequence of events

1 Evidence gained from interviews and from inspection of the scene, plant, equipment or machinery, should give an indication of the sequence of events leading up to the accident.

1.6.2.21 Ascertain the extent of injury or damage

1 It is not always possible to ascertain the full extent of injuries and damage resulting from an accident.

2 There may be complications or delayed effects from injuries. The total time off work will obviously not be known at the time of investigation.

3 Whilst it may be easy to identify the extent of the damage caused to plant, machinery, equipment, buildings and materials, it is far from easy to measure the overall effects of the accident in terms of lost time, lost production and, of course, the suffering of the injured person or persons.

1.6.2.22 Completion of the incident book and an incident report form

1 Incident report details shall be documented on a standard form.

2 Reports shall be concise, based upon fact rather than speculation, unbiased and should summarise the essential information obtained during the investigation.

3 Sample incident and damage report forms are included as Appendices 1 and 2 of this section.

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1.6.2 Appendix 1

Personal incident Report

1. Name of Contractors .....
2. Site address .....

   ..... Contact.....
3. Injured person's name .....
4. Injured person's address .....
5. Age .....
6. Normal occupation .....
7. Occupation at time of incident .....
8. Exact location of incident .....
9. Date and time of incident .....
10. Date and time of ceasing work .....
11. State precise nature of injury .....

    (If eye or limb, state left or right)
12. To whom was the incident reported? ..... Date ..... Time .....
13. Entry made in incident book on .....
14. Qatar Administrative Authority informed :

    Date ..... Time .....
15. F100 report sent to Qatar Administrative Authority on.....
16. Incident recorded in the official Contractors register? (If applicable) .....
17. Was first aid given on site? .....

    If treatment was received from a doctor, state name .....
18. Did the injured person go to hospital? .....

    Give name of hospital .....
19. Was the injured person authorised to be at the place of the incident for the purpose of his/her work?

20. How was the incident caused? .....

    a) Give a full description of what happened .....

    b) State what the injured person was doing at the time .....

    c) If falls of persons from heights or into excavations or holes are involved, state distance of fall in metres

21. What action has been taken to prevent a recurrence? .....

22. If machinery was involved

    a) Give name and number of machine or part causing the incident.....

    b) Was it working at the time of the incident? .....

23. Names and addresses of witnesses to the incident. Always obtain witnesses wherever possible.

    a) .....,.

    b) .....

    c) .....

    Attach signed statements from each witness whenever possible.

24. Use the reverse of this form or a separate sheet of paper for a sketch plan of the scene.

This form was completed by:

Name ..... Signed ..... Date .....

TO BE COMPLETED BY HEAD OFFICE

Further medical reports on injured person Date .....

Injured person ceased employment Date .....

New address for injured person .....

.....

.....

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1.6.2 Appendix 2

Damage Report

Contact .....

Address of site .....

.....

Plant or equipment affected .....

.....

.....

Serial numbers or identifying marks .....

Full name and address of owner of the plant or equipment .....

.....

.....

Place, date and time of incident .....

.....

Details of defects or damage .....

.....

.....

Names of operators concerned .....

.....

.....

Cause of the incident .....

.....

Names of witnesses .....

.....

.....

Agent or supervisor's signature ..... Date .....

Appendix 3

Form F100 Reporting of an injury or dangerous occurrence

REPORT OF AN INJURY OR DANGEROUS OCCURRENCE – Form 100

Filling in this form – this form must be filled in by a Contractor or other responsible person.

Part A

About you

1. What is your full name?
2. What is your job title?
3. What is your telephone number?

About your organisation

4. What is the name of your organisation?
5. What is its address?

Part B

About the incident

1. On what date did the incident happen?
   Select date.
2. At what time did the incident happen?
   (Please use the 24-hour clock e.g. 0600)
3. Did the incident happen at the above address?
   - Yes ☐ Go to question 4
   - No ☐ Where did the incident happen?
     - ☐ Elsewhere in your organisation – give the name and address
     - ☐ At someone else's premises – give the name and address
     - ☐ In a public place – give details of where it happened

   In you do not Know the postcode, what is the name of the construction site
   place
4. In which department, or where on the premises, did the incident happen?

Part C

About the injured person

If more than one person was injured in the same incident, please attach the details asked for in Part C and Part D for each injured person.

1. What is their full name?
2. What is their address?
3. What is their home phone number?
4. How old are they?
5. Are they ☐ Male ☐ Female
6. What is their job title?
7. Was the injured person
   - ☐ one of your employees?
   - ☐ on a training scheme? Give details:
   - ☐ on work experience?
   - ☐ Employed by someone else? Give details of the employer:
   - ☐ self-employed and at work?
   - ☐ a member of the public?

Part D

About the injury

1. What was the injury? (e.g. fracture, laceration)

2. What part of the body was injured?

3. Was the injury (tick one box that applies)
   - ☐ a fatality?
   - ☐ a major injury or condition? (see accompanying notes)
   - ☐ an injury to an employee or self-employed person which prevented them doing their normal work for more than 3 days?
   - ☐ an injury to a member of the public which meant they had to be taken from the scene of the accident to a hospital for treatment?

4. Did the injured person (tick all the boxes that apply)
   - ☐ become unconscious?
   - ☐ need resuscitation?
   - ☐ remain in hospital for more than 24 hours?
   - ☐ none of the above

Part E

About the kind of accident

Please tick the one box that best describes what happened, then go to Part G.

- ☐ Contact with moving machinery or material being machined
- ☐ Hit by moving, flying or falling object
- ☐ Hit by moving vehicle
- ☐ Hit something fixed or stationary
- ☐ Injured while handling, lifting or carrying
- ☐ Slipped, tripped or fell on the same level
- ☐ Fell from height
  How high was the fall? metres
- ☐ Trapped by something collapsing
- ☐ Drowned or asphyxiated
- ☐ Exposed to, or in contact with, a harmful substance
- ☐ Exposed to fire
- ☐ Exposed to an explosion
- ☐ Contact with electricity or an electrical discharge
- ☐ Injured by an animal
- ☐ Physically assaulted by a person
- ☐ Another kind of accident (describe it in Part F)

Dangerous occurrences

Enter the number of the dangerous occurrence you are reporting. (The numbers are given in QCS Section 11 Part 1.01):

Part F

Describing what happened

Give as much detail as you can: For instance

- the name of any substance involved
- the name and type of any machine involved
- the events that led to the incident
- the part played by any people

Part G

Your signature

Date

Select date.

Please continue on this page if necessary

APPENDIX 8

REPORT OF A CASE OF DISEASE – Form 100A

Filling in this form – this form must be filled in by an employer or other responsible person.

Part A

About you

1. What is your full name?
2. What is your job title?
3. What is your telephone number?

About your organisation

4. What is the name of your organisation?
5. What is its address?
6. Does the affected person usually work at the above address?
   - Yes ☐ Go to question 7
   - No ☐ Where do they normally work?
7. What type of work does the organisation do?

Part B

About the affected person

1. What is their full name?
2. What is their date of birth?
3. What is their job title?
4. Are they ☐ Male ☐ Female
5. Is the affected person (tick one box)
   - ☐ one of your employees?
   - ☐ on a training scheme? Give details:
   - ☐ on work experience?
   - ☐ Employed by someone else? Give details of the employer:
   - ☐ other? Give Details:

Part C

The disease you are reporting

1. Please give:
   - the name of the disease and the type of work it is associated with; or
   - the name of the disease (from the list under QCS Section 11, Part 1.06 -Reporting diseases):

2. What is the date of the statement of the doctor who first diagnosed or confirmed the disease?

   Select date.

3. What is the name and address of the doctor

Part D

Describing the work that led to the disease

Please describe any work done by the affected person which might have led to them getting the disease.

If the disease is thought to have been caused by exposure to an agent at work (e.g. specific chemical) please say what that agent is.

Give any other information which is relevant.

Give your description here

Continue your description here

Part E

Your signature

Date

Select date.

Please continue on this page if necessary

Construction Site Safety

1.6.3 Behavioural Safety

1.6.3.1 Key points

1 Behavioural safety attempts to focus on why people act the way they do in relation to work activities and decision making. It is based on a process of observation, intervention and feedback, and aims to identify, in advance, any situations or conditions that may have an impact on completing tasks safely.

2 Situations or conditions may be influenced by an organisation, the individual or as a reaction to change by either.

3 Behavioural safety is proactive, trying to head-off potential problems rather than reacting to past accidents and mistakes.

4 For simplicity, this module and much of the text within it refers to 'behavioural *safety;* however, the principles apply equally to preventing incidences of occupational ill *health.*

5 To be effective, a behavioural based approach requires:

(a) clear and unambiguous leadership from the top down

(b) 'buy-in' at all levels to making the scheme work

(c) an 'up-front' commitment in terms of time, effort and determination

(d) scheme sponsors who believe in the value of making it work, who can be sympathetic to the reasons why some people behave in an unsafe manner and persuasive in convincing those people that they should not

(e) effective communication on what the scheme is trying to achieve

(f) a concerted effort to convince those affected that they will not be disadvantaged by the changes that will come about as a result of introducing the approach

(g) effective engagement of everyone involved in the approach, not just those directly involved with the construction process.

1.6.3.2 Why use a behavioural safety approach?

1 Historically, improvements in health, safety and environmental performance have been achieved through improvements in engineering technology and enhancing safety management systems. In many ways, this methodology has reached its optimum performance and the related improvements in health and safety performance have begun to level off. Future performance gains will only be achieved by taking more account of the way people interact in every aspect of the workplace; and through integrating and understanding the human element of risk.

2 Trying to account for human performance in numerical ways is difficult. Many companies have tried to quantify human performance by using engineering methods.

3 For example, 'at risk' and 'safe' behaviours have been analysed to create a '% Safe' rating.

4 We all have our own perception of risk based on our individual experiences and it is not easy to make direct comparisons between different views and opinions. Despite this, most people have a genuine desire to work safely through adopting the 'best practice'.

5 This document defines behavioral safety as:

'organisational, job and individual factors which influence behaviour at work in a way which can positively affect health and safety.'

6 The practicalities of successfully implementing a behavioural approach involve:

(a) establishing an effective system of two-way communication to develop mutual trust between management and workforce

(b) engaging the right people in the decision making

(c) observing people at work

(d) assessing their safe and unsafe behaviours (non-judgemental)

(e) making timely interventions

(f) establishing why unsafe behaviours take place

(g) influencing those who behave unsafely not to do so in the future

(h) recognising safe behaviours and if appropriate, rewarding

(i) continuing assessment and research whilst looking for improvements in safety behaviour.

7 The overall benefits are likely to be:

(a) more effective communication

(b) a reduction in the number of workplace injuries

(c) improvement in the standards of health and safety

(d) reduced losses for the individual and the Contractors

(e) the extension of safe working practices into the home life.

1.6.3.3 Developing a behavioural approach

1 There is a recognition that a behavioural approach attempts to:

(a) increase efficiency

(b) achieve more flexibility and effectiveness

(c) produce long-term changes.

2 The benefit for managers is to understand the motives behind why some people take risks and put themselves and others in danger, and thereby significantly reduce the potential for injuries and occupational ill health.

3 A behavioural safety approach is very effective in preventing workplace injuries and instances of occupational ill health. However, the approach does not reach its full potential until people start to share problems and issues with each other and with their supervisors.

4 Any success is dependent upon free and effective two-way communication and engagement. There must be mutual trust as to the motives of all parties. Such trust can only be built upon a just culture where employees at all levels can voice their mistakes knowing that the information will only be used to prevent the situation occurring again.

5 If a health and safety discussion is a positive experience, people will think about safety more positively and take steps to create the necessary safe working environment. Everyone has a right to carry out their work without being injured or becoming ill. Equally, nobody should have to tell somebody's family that their loved one has been killed or injured because the Contractor hasn't organised its health and safety arrangements effectively.

6 Behavioural safety has significantly contributed to improving the safety performance of Contractors that have committed resources and time to it.

7 An effective behavioural approach must involve all levels of an organisation, not just those on

the 'coal face'. However, when we look at why people do what they do, we often find that errors are rooted in the way that health and safety is organised. Unsafe situations found in the workplace reflect problems with the way the company is led and organised.

8 The principles of behavioural safety are well established but putting them into practice can be difficult. Low levels of trust, poor motivation, or management that is not visible and rarely visits the site mean that many organisations do not communicate effectively and do not obtain or sustain effective involvement from the workforce.

9 However, many workers are still sceptical about these processes because of their current working practices. For example, some people object to observing colleagues, while others feel that it is a judgemental process in disguise in which gathering information leads to allocation of blame. Others may just fill in the observation cards because they have a target to meet.

10 Furthermore, cultural issues such as poor leadership, completion bonuses, little or no worker engagement and not reporting accidents affect the ability to establish an open culture.

11 When not everyone is open about what is really taking place on site, there is the obvious potential for someone to be injured.

12 Organisations should provide a platform for productive debate, a chance to share best practice, air conflicting opinions that challenge existing working practices and provide an opportunity to learn more about the psychology of injury prevention.

1.6.3.4 The psychology of behavioural safety

1 Behavioural safety applies tried and tested psychological principles in order to change the way people and organisations do things, particularly how people act or behave in respect of their own health and safety.

2 A behavioural approach takes into account:

(a) how people think

(b) how people act and behave

(c) how people respond to certain situations

(d) how their immediate surroundings can influence people's thoughts and actions.

Thought processes

3 The conscious or alert state of mind can only process on average seven thoughts at once. If a distraction disturbs a person's thought processes, they may, for example, trip over a toolbox they have placed on some steps or fall into a hole they recently dug. Other thoughts have entered their conscious mind and the hazardous situation is momentarily forgotten.

4 Hence good workplace design and housekeeping practices, such as removing hazards immediately and always keeping walkways clear, are critical to prevent injury.

5 It is difficult to convert emotions and opinions into usable information that promotes safety improvements. Often the ability to increase safety awareness by the individual doing a 'Mental Risk Assessment' (i.e. asking 'what is going to put me at risk while I do this job?') is lost. Yet future performance gains will only be achieved by creating a process that is simple, positive and, most of all, resolves the issues as soon as practicable.

6 It is essential that employees feel that they are able to discuss the day-to-day aspects of their job, and it should be as natural as talking about their favourite sport. We should take into account the way people work alongside each other and try to work from a baseline of openness about what is going on.

7 By helping people to understand the implications of how they work and engaging their knowledge, we will have identified a process that integrates human factors into the core management system of the business, encouraging positive, open and real communication that resolves issues when they arise, rather than keeping them hidden until an incident occurs.

Habits

8 Habits are subconscious ways of thinking, both positive and negative. They are formed when a task and behaviour is repeated. The more repetitions, the stronger the habit, until no conscious thought is given to the job. An example of a negative habit is not wearing eye protection when using a disc cutter because the past is used to justify present actions - the worker has not been injured before so argues that they will not be injured now.

9 A positive habit can be formed by communicating the benefits, consciously ensuring eye protection is worn, perhaps by raising awareness via posters or stickers on the disc cutter, keeping eye protection with the disc cutter, or spoken reminders from work colleagues and supervisors. Eventually wearing eye protection becomes a habit and the norm.

Beliefs, expectations, attitude and behaviour

10 We all have our own beliefs (attitudes) that underlie how we think and hence define the way we act. If managers and supervisors are not committed or do not really believe that health and safety is a priority, a powerful negative message will be sent to employees.

11 Low expectations and poor leadership from management can create negative attitudes from employees that result in poor methods of working that lead to poor health and safety performance.

The challenge

12 It is increasingly being recognised that integrating a systematic, proactive process within the organisation's arrangements can add significantly more value by addressing behavioural aspects of health and safety at the same time as optimising efficiency and productivity.

13 Significant improvements can be made to performance through open communication and a reporting process based on what is really happening. This will enable better assessment of risks, bridges to be built, trust to be enhanced and the workforce to participate willingly as issues are resolved and solutions found.

The barriers to progress

14 If management promotes a negative or passive message, making the workforce believe that it is collecting unnecessary data or that the information will never provide solutions, any potential gains will be lost.

15 Organisations that adopt a behavioural approach must fully understand that it is not a short term solution but a 'change in the way we do things round here' that will need an effective investment of resource and commitment.

The solution

16 A simple, fully integrated process that stimulates discussions on everything that is going on, whether safety or otherwise, is progressed through an action plan. Once people see that these positive discussions lead to a positive gain, even without the difficult observation process, even greater workforce involvement would occur.

1.6.3.5 Why observation processes can be difficult

1 People sometimes have major difficulties in carrying out a formal observation. To stand, observe, then to talk about what was seen in order to seek ways to improve work practices creates a challenging situation for many people.

2 Some of the issues are:

(a) people dislike being observed during any task

(b) people will tend to change their behaviours whilst being observed, therefore defeating the purpose of the exercise

(c) difficulty in interpreting the information to identify any trends

(d) a focus on changing attitudes and behaviours means that training is likely to be via workshops and committees. This may be too expensive in terms of both available time and resources.

3 Individuals vary in their perception of the level of risk associated with a particular situation. We all base this mental risk assessment on our own experiences and have a slightly different perspective on what is going on.

4 If a worker has not had an accident while carrying out a particular activity, they will often score the risk as zero in a personal risk assessment because they judge that it will not happen to them. For instance, an individual may work from an untied ladder, accepting there is a small risk of falling and not necessarily recognising the severity of the consequence if they did fall. However, they may observe a work colleague on the same ladder and can see the risk and potential consequence.

1.6.3.6 Reducing human error and influencing behaviour

1 People can cause or contribute to accidents, or mitigate the consequences, in a number of ways:

(a) A person can directly cause an accident by failing to carry out a job correctly.

(b) A person may hear but not listen and understand health and safety information that is associated with the task, thereby failing to work to expectations.

(c) People tend not to make errors deliberately but they are often 'set up to fail' by the way the brain processes information. For example, errors may occur as a result of stress, fatigue, working long hours without sufficient rest, a lack of training, the poor design of equipment, weak procedures or because of the shortcomings in the culture of the organisation in which they work.

(d) People can make disastrous decisions even when they are aware of the risks. A particular situation or the severity of its consequences can be misinterpreted and inappropriate action taken as a result. This poor assessment of the situation can lead to the escalation of an incident.

(e) On the other hand, other people (such as workmates, supervisors and managers) can intervene to prevent potential accidents or mitigate their possible effects.

(f) The severity of an accident can be reduced by the effectiveness of the emergency response. The effectiveness can be improved by planning and appropriate training.

1.6.3.7 Active and latent failures

1 The consequences of human failure can be immediate or delayed. It is important to have an understanding of active and latent failures and how they impact on health and safety.

(a) ***Active failures*** have an immediate consequence and are usually made by front-line

people such as drivers, operators or even the public. In a situation where there is no room for error, these active failures have an immediate impact on health and safety.

(b) ***Latent failures*** *are* caused by people such as designers, decision makers and managers whose tasks are removed in time and space from operational activities. Latent failures are typically failures in the design, implementation or monitoring of health and safety management systems.

2 Latent failures provide as great, if not greater, potential danger to health and safety as active failures. These can be highlighted only through positive safety discussions that utilise the experience and knowledge of the workforce. Latent failures are hidden within an organisation until they are triggered by an event likely to have serious consequences.

3 Examples of latent failures are:

(a) Poor design of workplaces, plant and equipment

(b) Gaps in supervision

(c) Undetected manufacturing defects

(d) Maintenance failures

(e) Unworkable procedures

(f) Clumsy automation

(g) Ineffective competency assurance

(h) Ineffective training

(i) Ineffective communications

(j) Uncertainties of role and responsibility

(k) Ageing assets, plant, tools and equipment

(l) Poor planning - insufficient people/time

(m) Poor intelligence on health and safety incidents.

1.6.3.8 The management of change

1 Most people fail to plan for the human side of change and wonder why their plans rarely succeed. No single behavioural process fits into every company but some prescriptive processes may be a necessary step towards achieving open communication.

2 Any change creates 'people issues'. For example, there may be new leaders, changed roles, and the need to develop new skills and capabilities. Employees may be uncertain and resistant because they do not see the need for change or feel that they will be disadvantaged by it. Dealing with these issues on a reactive, case-by-case basis puts the progress of the job, workforce morale, and overall performance of the behavioural approach at risk.

3 Change is unsettling for people at all levels of an organisation. The team needs to work together and understand that individuals are going through stressful times and need support. Only after everyone aligns and commits to the change programme can the workforce deliver tangible results.

4 Individuals (or teams of individuals) need to know what changes they will see as a result of a behavioural safety programme being - implemented, what is expected of them during and after the change programme, how they will be measured, and what success or failure will mean for them and those around them.

1.6.3.9 Lead by example

1 The implementation of behavioural safety can pose particular problems with a fragmented and mobile workforce such as that found in the construction industry.

2 To be successfully implemented on site, it is fundamental that the principles of behavioural safety are embedded within the organisation's culture and understood by the workforce and management from the beginning. It cannot 'just be thrown in' as an initiative at a later stage.

3 The foundations, expectations and compliance processes must be made clear from the beginning. If employees and contractors receive the right induction, standards will be set for the future.

4 If people digress into non-compliance and break basic rules (such as not wearing hard hats or safety goggles), then subsequent batches of inductees will receive the message that safety is not taken seriously (they can get away without wearing their hats and goggles).

5 Similarly, when senior managers visit sites, they should receive the same induction and live by the same rules - body language and example can send a powerful message.

1.6.3.10 Facilitation and coaching

1 Team leaders should be as honest and explicit as possible about what impacts on health and safety. People react to what they see and hear around them, and need to be involved in the change process.

2 Individual commitment, ownership and accountability for safety is vital to making change happen. Everyone must be willing to accept responsibility for change in the areas they influence or control. We do not expect machinery or plant to undergo alteration without appropriate engineering controls, why should we expect people to change without support.

3 Ownership is often encouraged by involving people in identifying problems and Grafting solutions. It is reinforced by coaching and facilitation, incentives and, sometimes, rewards.

4 These can be tangible (for example, financial compensation) or psychological (for example, camaraderie and a sense of shared involvement).

5 The best programmes reinforce the core messages of safety through regular, timely engagement and communication that is both inspirational and practicable. Communications are targeted to provide employees with the right information at the right time and to solicit their input and feedback.

6 Effective change requires continual review to ensure that new issues are identified and actioned.

1.6.3.11 Staffing levels

1 Some companies operate with the lowest possible number of people required to achieve their commercial objectives. Margins are tight and contracts are won and lost on cost. This means that people can be stretched beyond acceptable limits, doing too much, working long hours and experiencing high levels of stress and fatigue - a recipe for disaster. Contractors should remember that if a job needs more people, then they should be provided, otherwise people get hurt.

1.6.3.12 Training and competency

1 It is likely that if a workforce is:

(a) motivated and well trained

(b) not under unreasonable time pressure

(c) given the correct information and training

(d) working with the right, well-maintained equipment

(e) they will efficiently complete their tasks to a high standard.

2 Conversely, high workloads and tight timescales often result in training and competency assessments falling by the wayside, which can lead to ineffective decision making, poor working practices, out-of-date certification of plant, equipment and, of course, a negative effect on people's skills.

3 As part of managing change, it is essential that a training and competency assessment be carried out so that shortcomings are identified and addressed, and consequently people are not put at risk. Every Contractor is responsible to ensure that people are trained and competent to carry out their tasks. Greater production efficiencies are achieved through correct skill levels and further gains are made in completion times and work output.

1.6.3.13 Fatigue

1 It has long been recognised that fatigue affects the mind and emotions as well as the body. The issue is important in any discussion regarding safety; operator fatigue has been implicated in many serious construction accidents.

2 The word 'fatigue' is, like 'stress', an umbrella term that encompasses many meanings. The phrase **'physical fatigue',** for example, may refer to muscle aches and pains, shortage of oxygen, or a more systematic feeling of tiredness caused by sleep deprivation, illness or poor nutrition.

3 **'Mental fatigue'** is typically associated with tasks that demand intense concentration, rapid or complex information processing, and other high-level cognitive skills. Another form of fatigue is boredom, particularly when it results from repetitive or monotonous activity.

4 Symptoms of extreme fatigue would include obvious loss of concentration or difficulty in recalling information, poor decision-making, irritability, red eyes, uncontrollable yawning, and slow responses to questions.

5 A person suffering from mental fatigue may also spontaneously complain about being tired or having had too little sleep. Asking the person if they feel fit to start work may not result in a very reliable answer. Individuals may feel that they are under pressure to state they are fit for work, knowing that they are not.

1.6.3.14 Shift work

1 Humans have evolved to be active during the day and to sleep at night. The timing of work, particularly shift work, can interfere with this pattern so the increasing demand for a 24/7 workplace has a serious impact on safety.

2 A disrupted sleep pattern can lead to fatigue and poor performance, which can increase risk. On a night shift, people are likely to be working when their bodies expect them to be asleep; they also then have to sleep during the day when they would otherwise be alert.

3 Other features of work schedules that affect levels of fatigue include the shift start time, the length of a shift, the number of shifts worked before a rest day, whether there is overtime, how much rest is taken between shifts, how much rest is taken during the shift, and whether the work schedule is regular and predictable.

4 Some shift patterns can result in a short daily rest interval of perhaps only 8 hours; this would be unfavourable for safety-critical workers.

1.6.3.15 Culture

1 Culture can be seen as 'the way we do things round here'.

2 Generally, people at work do unsafe things because:

(a) they did not know that what they were doing, or the way they were doing it, was unsafe - an 'education' or 'training issue'

(b) it was a genuine slip or lapse-work patterns, working hours, fatigue and stress resulting from work or private issues etc. could be playing a part

(c) a deliberate breaking of the rules - is the time allowed to do the job safely unrealistic? Is there a lack of management commitment to insisting on safe working? Peer pressure, particularly with regard to the young and inexperienced

(d) management failure to devise and implement a safe working environment thus making unsafe working practices inevitable unless workers 'stand their ground'.

3 Safe working depends upon equal attention being given to:

(a) the **conditions** in which people are expected to work

(b) safe **systems** of work being developed and implemented

(c) safe **behaviours** being instilled in the people who have to do the work.

4 The health and safety management system, as well as individual management practices, must support the desired culture. In fact, in the absence of a positive (or changing) culture, an observation and feedback process is unlikely to succeed.

5 Organisations rely on a number of processes and procedures to manage risk and thereby decrease the chance of incidents and injuries. Each of these processes has an important contribution to make, not only by improving workplace safety but also by influencing an organisation's culture.

6 These generally include systems such as:

(a) site rules and procedures

(b) health and safety training

(c) hazard identification and correction

(d) discipline

(e) incident reporting and investigation

(f) health and safety communications

(g) worker engagement

(h) health and safety suggestions

(i) rewards and recognition.

7 When the system is poorly designed or operating ineffectively, its ability to accomplish its primary purpose will be compromised. At worst, a poorly designed, badly implemented or ill-functioning system can also have a negative influence on an organisation's overall health and safety culture.

8 For example, the culture cannot improve when:

(a) incident investigations create an air of mistrust and blame

(b) safety incentive programmes discourage injury reporting

(c) accountability processes fail to recognise individuals for their accomplishments

(d) performance evaluations only consider safety performance in terms of whether or not the individual was involved in an incident, i.e. the outcome of an incident and not the potential.

9 Poor features of one system can have negative influences on other systems. For example, when employee incentive programmes or supervisor performance evaluations are based primarily on reducing injury rates, is it reasonable to expect employees to embrace an open injury reporting and investigation system?

10 Similarly, when the incident investigation process is viewed as extremely blame-oriented, is it reasonable to expect employees to feel uncomfortable in having their safe and at-risk behaviours observed and recorded? The above factors will stifle open and honest communication and can impact upon each other.

11 Hazard identification and correction requires a climate that fosters:

(a) willing employee participation

(b) sufficient training so that employees can recognise and correct hazards

(c) open communication about the hazard and/or its suggested solution.

1.6.3.16 Intervention

1 There are many recorded instances of people failing to intervene when they see an unsafe or illegal act, which is taking place in public. Whilst it is fully understandable that someone might not want to become involved in a violent confrontation in the street, in the context of work the personal risk to say, a supervisor who intervenes to prevent someone working unsafely, should not be so great.

2 However, the behaviour of supervisors and managers can directly affect the behaviour of operatives. The effect of failing to intervene in an unsafe situation is to condone that activity, practice or behaviour. This in turn sends a message to the operatives that the activity concerned is permitted and confuses the site teams. Therefore, intervention by managers and supervisors is critical in every case.

3 From the information available, the reasons for a failure to intervene appear to be split between a **lack of knowledge** that anything was wrong and a conscious **decision** not to take any action.

1.6.3.17 Lack of knowledge

1 The situation in which there was a lack of knowledge is self-explanatory; the person in control of the activity had not received adequate training and was not sufficiently competent to appreciate that work was being carried out in an unsafe manner.

1.6.3.18 Conscious decision

1 The conscious decision not to intervene may possibly be based upon financial or time considerations, for example, a supervisor might ignore the unsafe use of a ladder because it saves the time and expense of hiring-in a MEWP.

2 However, there may be other personal factors for not intervening:

(a) overload, the supervisor or manager is suffering from a heavy workload and is simply unable to identify the unsafe situation developing

(b) actions of others, especially other managers or senior managers, can shape the decisions of the supervisor. Usually the fact that no one else involved in the operation is concerned is excuse enough for not getting involved

(c) ownership of the situation where the supervisor or manager does not actually believe or understand their duties, or where they are not directly in charge of the operation and believe they have no jurisdiction

(d) having the skills to resolve the issue is also important. Where a supervisor or manager lacks knowledge about the task or the important communication skills, then they are less likely to get involved

(e) the risk of possibly entering into a situation where they may be required to make a difficult decision that could have a significant effect on the project. The support of senior managers is critical to allow junior managers and supervisors to become involved in safety issues and empowering them to take whatever action they deem necessary if an unsafe situation arises. At worst, this could even involve the cessation of work until the safety issue is investigated further.

1.6.3.19 Risk and safety

1 Making assessments about risks and reaching an informed decision cannot be achieved without information - or at least that's what most management systems require.

2 The process of obtaining information begins with the recognition that the problem exists, and then raises questions to which answers are required. Deciding the level of accuracy and precision depends on the sampling and measurement methods.

3 In behavioural terms, this is done through identifying 'what' is happening during an observation and asking 'why'. The 'whats and whys' are collated, analysed and tabulated to identify trends, often by interpreting the data. Interpretation is based on the personal perception of what has been observed and so identifying trends can be difficult. Although risk can be quantified as abstract principles, health and safety cannot.

4 Whilst risk assessment is based on knowledge of the job and past experience, the corresponding judgement on safety is normative and can be 'political'. It may be possible to obtain group agreement on objective and rational measures of risk for various activities. However, there will often be controversy over what are considered to be safe conditions.

5 Attempting to define acceptable levels of risk immediately raises the question of 'to whom' or 'on what terms' is the risk acceptable?

6 The distinction between risk and safety is more than a semantic one.

7 There are a number of factors to be considered in defining the acceptability of risk:

8 **Cost:** Safety is always compromised by available budget yet it costs far more to investigate and restore safe working conditions after an accident than it does to resolve the issues in the first place.

9 **Controls:** Who has control? Those at the place of work should have control over the safety requirements of the task. Ownership is critical for a safe working environment.

10 **Customs:** Many risks are taken because certain activities have always been done that way.

11 **Conditions:** Many people are put at risk because conditions have changed resulting in longer working hours, tight timescales, lack of resources, workload, fatigue, stress or an ageing workforce. This leads to errors, particularly in plant maintenance.

12 **Consequences:** Managers rarely evaluate in advance the consequences of something going

wrong. Often the thought process seems to be 'if it hasn't happened yet, it won't happen at all'.

13 **Benefit:** What benefits does the individual get from taking a 'short cut' such as getting the Job done and an early finish.

1.6.3.20 Communication

1 'Actions speak louder than words'. For trust to be built an individual's behaviour and body language must reinforce what is being said -'walk the talk' as some people say.

2 Communication is at the heart of all that we do, both at work and in our own time. It takes place in many forms and can be transmitted via various media, e.g. face to face, radio, telephone, email or video conferencing. It is essential, especially within our working environment, that we get it right. Difficulties in achieving efficient communication may include background noise, the type of language used and sociocultural issues, so the potential for confusion and misinterpretation can be high.

3 It is vital to give the person receiving information the time and space to be able to think and formulate a response. In communication, it is the quality, not the quantity, which matters.

1.6.3.21 Verbal and non-verbal communication

1 During a normal conversation, we usually transmit and receive in three ways:

(a) what is said

(b) how it is said

(c) body language (conscious or not).

2 Studies have shown that, generally, individuals assess what is being communicated to them by subconsciously attaching an 'importance value' to each of the above three factors in the following proportions:

(a) 7% of the communication is by words that are said

(b) 38% is through the way we say it, and

(c) 55% by the use of our 'body language'.

3 During periods of high workload or stress, our body language goes largely unnoticed. This is when the words we use and the way in which we say them become more important. In addition, our listening capability reduces as our workload or stress increases. Key points are:

(a) communication involves both a listener and a receiver. What we say, how we say it and when we say it are very important

(b) we need to watch out for overload - if the receiver is overloaded then there is no point in trying to communicate with them. If the message is important then we need to lessen the workload

(c) ensure you have the receiver's attention - some, or all, of the message will be lost or misunderstood if the recipient is not paying attention.

1.6.3.22 Hearing and listening

1 There is a difference between hearing and listening. Hearing is a mechanical process involving the way sound waves are translated by our ear into sound. When listening, we actively engage the brain and apply logic and context to the sound.

2 *We only listen to about one-third of what we hear and that is only if we are interested. The proportion is much less if we are not interested.* A productive exchange would usually involve:

(a) **Listening** by actively engaging the mind

(b) **Evaluating** by considering what is being said; asking ourselves if it makes sense, if it is in context; whether we wish to respond

(c) **Planning** what we are going to say and waiting for an opportunity to respond.

1.6.3.23 Questioning skills

1 The way in which questions are asked can control the discussion.

2 There are several types of question and the most used are:

Type	**Response**
Closed	A fact or YES/NO
Open	Invites an extensive reply
Leading	Indicates the required answer
Limiting	Restricts options
Multiple	Many questions in one -confusion

3 We are always communicating. Even silence communicates something and may imply annoyance or criticism. Consider what effect your own personal style can have on others.

4 **Some good practices in communication**

(a) Control distractions.

(b) Where possible make visual and eye contact.

(c) Clearly identify the transmitter and receiver.

(d) Be clear, precise and concise.

(e) Avoid words that could be misinterpreted.

(f) Use phonetics for alphanumeric information (for example, 'M for mother').

(g) Obtain verification from the receiver that the message is understood.

(h) Acknowledge the verification (closed loop communication).

1.6.3.24 Nationality, language and culture

'Safety must be a common language'

1 Construction has become a globalised business, with Qatar worksites typically staffed by multinational as well as multilingual and multicultural crews. This trend has posed risks, in particular with respect to communication.

2 Areas for consideration when working with a multicultural team include their:

(a) capability in Arabic and/or English

(b) work role expectations

(c) leadership expectations

(d) attitudes to safety

(e) mutual understanding.

3 Cultural differences can be overcome by all parties, especially the leader, practising mutual respect and by taking the trouble to understand the differing cultures and getting to know the team members as individuals.

1.6.3.25 The benefits of health and safety discussions

Discussion/Consultation/ Involvement/Feedback

1 Improvements to working practices will reduce the potential for accidents, create a better system of work and raise awareness of issues and solutions.

2 One method of enhancing any safe system of work is through frequent and open discussions. The heart of any process is communication: everyone involved needs to share ideas and knowledge. This can have a massive influence on bottom line profits with everyone working more efficiently towards achieving a high quality product.

3 The Contractors image will also benefit if, by the actions exhibited, it is shown to be committed to a safe and healthy working environment where no one is injured or becomes ill as a result of coming to work.

4 One option is for site managers to have an informal 10-minute chat with their employees and/or contractors' supervisors at the start of every day. The manager should encourage them to tell each other where they will be working and how their activity could affect other people. This will help supervisors to plan their day as well as improving co-ordination, consultation, production and, ultimately, safety.

5 The aim of a behavioural safety discussion is to identify any difficulties in completing tasks safely and to aid the supervisor or manager in identifying problems to achieve a safe system of work. Participants in the discussion should:

(a) use open questions

(b) smooth the way forward

(c) be clear in what they are saying

(d) avoid any misunderstanding

(e) proactively resolve issues through positive actions rather than reactively observing unsafe actions.

6 Those with more knowledge and experience can assist newer colleagues in understanding the hazards around them and stop people putting themselves at risk. Learning from a friendly, coaching manner is by far preferable to formal observations.

7 All employees should be involved in these discussions. Above all else, problems or issues should be resolved immediately with someone who has the authority to make the necessary changes.

Construction Site Safety

1.6.4 Drugs and Alcohol Misuse

1.6.4.1 Key points

1 Managers and supervisors should know the signs and symptoms of taking drug and alcohol.

2 People who take drugs and alcohol and are still under the influence when they arrive at work are far more likely to suffer an accident and be a danger to others.

3 There is also likely to be an impact on productivity, sickness absence and morale generally.

4 If staff are under the influence of drug or alcohol misuse at work, firm decisive action must be taken by the Contractor; it is unlikely that the problem will just go away.

5 Contractors shall have a written policy for dealing with employees who are unfit for work through drug and/or alcohol misuse.

6 Such a policy shall be reflected in employees' contracts of employment to cover such eventualities as the 'right of search', random testing, suspension/dismissal from work.

7 Policies shall be tailored to the specific needs of the company, be fully integrated with existing procedures and strike a balance between appropriate support and robust discipline.

8 Unless there is related misconduct, substance misuse should be seen as a treatable illness.

9 Anyone facing up to suffering from a drugs/alcohol misuse problem should be offered support and rehabilitation in strict confidence; there are many agencies who can offer professional advice and help.

10 Drugs testing is expensive and can introduce more problems than it solves, so the rationale for introducing a testing programme must be thoroughly thought out.

1.6.4.2 Introduction

1 The influence and use of alcoholic drinks and illegal drugs by employees on site is of growing concern to Contractors, given the risks to the health and safety of those employees and others who may be affected by the employees' actions or omissions.

2 Drug use poses a serious threat to the health, safety, well-being and livelihood of employees. Drugs may reduce perception, concentration and awareness, which can affect the safety and welfare of users and of others. The inability of a person to function competently and with reasonable care is a problem that must be addressed to prevent accidents occurring in the workplace.

3 It should also be appreciated that taking some prescription and over-the-counter drugs can result in a reduction in alertness, concentration and, therefore, safety performance. This is covered in greater detail later in this text.

4 Alcohol-related problems can be detrimental to the individual's state of health and their safety awareness.

5 This can affect the smooth operation of an Contractors business, and can result in waste and inefficiency. Both alcohol and drug problems can be effectively treated by a variety of means. The earlier the intervention, the higher the likelihood of a positive outcome.

6 Research findings show that drug and alcohol misusers are:

(a) 3 times more likely to be absent from work for 7 consecutive days or more

(b) at least 25% less effective overall

(c) nearly 4 times more likely to be involved in workplace accidents.

Drunk driving

1 Driving on site under the influence of alcohol is shall not be permitted. Contractors are required to develop a written policy on the matter. Contractors shall also have a policy for employees whose duties include driving (either on or off site) and who have been convicted of drunk driving.

Approximate detection times of alcohol and commonly used drugs in urine

Drugs	Approximate detection time
Alcohol	Dependent on amount consumed
Amphetamine	2-4 days
Barbiturates	2-10 days
Cannabis	2-30 days
Cocaine	12 hours - 4 days
Dihydrocodeine	1-2 days
Ecstasy	2-4 days
Heroin detected as morphine	1-2 days
Lysergide (LSD)	2-3 days
Methadone	2-3 days
Temazepam Diazepam (Valium)	1-2 days

1.6.4.3 Prescription and over-the-counter drugs

1 In addition to the dangers which can be caused on site by the use of illegal drugs, some drugs prescribed by doctors or bought from pharmacies may also have unwanted side-effects. On every drug packaging, there is a notice giving details of the correct dosage to be taken and at what intervals. This dosage must be strictly adhered to, as taking more than directed may have adverse effects. Similarly, there is often a warning on the packaging of over-the-counter drugs of the side-effects that they may have. This is suggested to be the case particularly with painkilling drugs and antihistamines. Some direction labels may also give a warning, for example:

May cause drowsiness. If affected do not drive. Do not operate machinery

2 Such warnings should not be ignored - they are there for the guidance and safety of the person for whom the drugs are prescribed and should be strictly adhered to.

3 If an employee is taking these forms of medication, a supervisor should be notified.

4 Employees shall notify their supervisor if taking any medications (prescription or over-the-counter) which may cause drowsiness or alter their performance at work in any way.

1.6.4.4 The scope of the problem

1 Problems at the workplace relate not just to consumption at or before work. Drugs or alcohol taken outside the workplace can affect performance long after the substance is consumed.

The indirect effects of alcohol and drug problems on individuals' actions within the workplace can also be severe. When considering the scale of the drugs or alcohol problem within a company, the following must be taken into account.

(a) The risk of accidents due to under-performance caused by drugs or alcohol.

(b) Inept and poor decision making.

(c) Lower standards of work.

(d) Low productivity caused by employees' inability to cope with workplace situations.

(e) Disruptive actions by employees under the influence of substances, bringing about a breakdown in discipline.

(f) The amount of time lost from the workplace due to absenteeism, lateness or habitual sick leave.

(g) The general long-term health of the workforce.

(h) Stress factors on employees due to home circumstances.

(i) Stress factors on employees due to financial implications brought about by the need to feed a habit or addiction.

(j) The adverse effect drugs or alcohol use could have on a Contractors image.

(k) Security considerations.

(l) The adverse effect on staff retention rates.

2 Successfully tackling alcohol and drug misuse can benefit both your business and your employees. For example, you would save on the cost of recruiting and training new employees to replace those who left work because of untreated misuse.

3 Offering support to those employees who declare a drug-related problem will also help to:

(a) reduce the risk of accidents caused by impaired judgement

(b) create a more productive environment, and improve employee loyalty and morale

(c) enhance public perception of your organisation as a responsible Contractor

(d) contribute to Qatar society's efforts to combat alcohol and drug misuse.

1.6.4.5 Identifying substance misuse

1 The misuse of alcohol or drugs (or solvents) by employees may come to light in a variety of ways. The following actions may indicate that a problem exists:

(a) absenteeism without notice

(b) poor time-keeping

(c) high accident levels and a tendency to be clumsy

(d) tendency to become confused and disorientated

(e) poor performance of duties, a sloppy approach to work and poor presentation of the finished article

(f) irritability or aggression, argumentative with superiors or work colleagues

(g) misconduct

(h) failure to remember, or failure to comply with, common instructions

(i) a sudden need for increased supervision

(j) leaving site either without permission or at lunch times to visit licensed premises

(k) the finding of empty beer cans, bottles or drug-related paraphernalia.

2 Physical symptoms of substance misuse may include:

(a) rapid loss of weight

(b) gaunt appearance

(c) tremors or sweating

(d) constant tiredness

(e) trackmarks, severe bruising or abscesses on arms

(f) overdilated or very small pupils

(g) cravings - ice cream, nicotine, sweet foodstuffs.

3 Behavioural symptoms may include:

(a) degenerating personal appearance

(b) severe mood swings

(c) avoidance of authority or supervision

(d) deteriorating relations with other staff

(e) swings in morale

(f) minimum involvement with other staff

(g) obsessive or compulsive behaviour.

4 The benefits of such identification need to be clear and, should a Contractor seek help, the Contractors may need to guarantee that the employee will not be disadvantaged.

5 Supervisors and managers may need training so as to be effective in identifying and addressing drug or alcohol misuse problems. The focus should be on specific examples of how work performance is being affected and not on direct confrontations or accusations of drug or alcohol related problems. Full training on effectively raising the issue with employees should be given. Contractor's policy on the subject should be clear and specific.

1.6.4.6 Developing a workplace policy

1 The substance misuse policy that is adopted will need to take account of the particular needs of the Contractor and the practical situations, including those brought about by working on building and construction sites.

2 However, there are a number of minimum requirements for such a policy, which should:

(a) contain a clear statement of the behaviour that is expected of employees

(b) apply equally to all employees, including managers and supervisors, at the workplace

(c) be made known to all employees

(d) be an integrated part of an overall health and safety policy

(e) include clear statements on the roles and responsibilities of all employees in relation to the policy (e.g. site-based operatives, site based managers)

(f) encourage those with a problem to come forward under a promise of strict confidentiality and future support

(g) state the conduct likely to result in action being taken under the policy

(h) be evaluated after implementation and amended, if necessary, in line with the outcome of the evaluation.

3 The policy is likely to be proportionate if:

(a) it is instituted to protect and promote employee safety

(b) employees are aware of the policy

(c) the process of collecting, transporting and testing samples can be proven to be independent and beyond reproach

(d) employees will know what the Contractors will do with the test results

(e) the Contractors has no other reasonable alternative way of obtaining the same result.

1.6.4.7 Implementing a substance misuse policy

1 Implementing such a policy has four essential components:

(a) the education and information of all levels of management and employees and their representatives

(b) the organisational support shown by the company

(c) the addressing of issues in the work environment

(d) the prevention and rehabilitation support offered by the Contractor to its employees.

2 Information about a substance misuse policy, covering alcohol and drugs, must be provided to all employees, and be included as part of any induction training for new recruits. The policy must be supported by education about the harmful effects of alcohol and drugs

3 It is important that management demonstrates its full support for the policy by ensuring observance by all staff, at whatever level, and endorsing changes to the working environment to facilitate the full and proper implementation of the policy.

4 The provision of treatment and/or referral services is an important component of implementing the policy. If problems are detected early, before serious physical and social effects occur, a brief intervention may be all that is needed.

5 Confidentiality for employees undergoing treatment and rehabilitation must be guaranteed. Equally, employees should not be disadvantaged in terms of promotion or seniority because they have sought or are accepting help.

6 However, as with all workplace health and safety matters, consultation with employees and the provision of education and information at an early stage may prevent the onset of alcohol and drug problems at work.

1.6.4.8 Misuse outside of the workplace

1 Generally, an employee's conduct outside of the workplace is not within the Contractors' control. However, if drug or alcohol misuse during recreational times creates a risk to their health and safety, or to that of others who may be affected by the employee's actions during working hours, consideration shall be given to the situation and to what action should or can be taken.

1.6.4.9 Alcohol or drug screening and testing

1 Introducing drug testing in the workplace is a difficult and potentially expensive initiative. It is essential to be completely clear on the reasons for doing so, or not. Testing is far from the whole answer and has inherent limitations.

2 Before any decision is taken by a Contractor to implement an alcohol or drug testing regime, care must be taken to ensure that an alcohol and drugs policy is fully established and communicated to all employees.

Why test

3 Drug testing might be introduced for a number of reasons. Other than where there is a clear clinical imperative (i.e. rehabilitation testing), the effectiveness of each approach has not been proven.

4 **Recruitment screening** usually refers to testing or assessing the health of potential employees during the recruitment process. Testing of this kind presents far fewer legal and logistical problems than introducing testing for existing employees.

5 **Routine testing** is done at specified times, and gives a clear message that it is not acceptable to be affected by alcohol when working. It might be used in situations where employees are in 'safety critical' posts, such as operating driving construction plant on a public road or operating machinery.

6 **Random testing** or unannounced testing is used as a deterrent to identify previously undetected drug or alcohol misusers. As with routine testing, any use in situations that are not safety critical may cause feelings of resentment amongst the workforce.

7 **Reason or 'With Cause' testing** might be used if a manager has reason to believe that an employee has been using drugs or drinking. This might be because of their behaviour or by physical signs, such as smelling of alcohol. It may also form a part of a post-incident or accident investigation.

8 **Rehabilitation testing** may be used where an employee has agreed to treatment and the treatment provider is testing to ensure compliance with a prescription (e.g. urine testing to ensure that an individual who has been prescribed methadone is not using heroin as well as the prescribed dose). Similarly, testing may be introduced as part of a return to work agreement between employee and Contractors.

Is testing necessary?

9 Drug and alcohol testing is a controversial and complex issue which has scientific, ethical, legal, social, industrial and economic ramifications.

10 It is reasonable to expect employees to be unimpaired by drugs or alcohol whilst at work, but it could be argued that requiring an employee to undergo a test 'without cause' (randomly or without specific evidence that they are impaired) is unfair and intrusive.

11 Whether testing is appropriate or necessary should be carefully considered, as the damage to Contractors-employee relations can potentially outweigh the benefits.

12 Whether you decide to introduce testing or not, it must be emphasised that it is not an end in itself. Drug testing is no substitute for good management practice and should never be introduced without:

(a) full co-operation from employees

(b) a programme of education for managers and employees

(c) robust systems for referral to adequately trained health professionals.

13 Before considering the introduction of a testing programme, Contractors should be able to fully answer the following questions.

(a) **Why do we want to test?** (i.e. what do we hope to achieve by it?)

(b) What substances will we test for?

(c) Which employees will we test?

(d) How will we select them?

(e) When will we test them? (e.g. routinely, randomly, pre-employment)

(f) How often will we test?

(g) How will we test (e.g. what method)?

(h) Who is best placed to conduct the test? (e.g. independent company/laboratory, occupational health department)

(i) What will we do with a positive result?

(j) What training will be necessary and for whom?

(k) What will be the financial costs?

(l) What may be the other costs? (e.g. staff morale)

(m) How will we involve the workforce and gain their consent?

(n) What will be our safeguards? (i.e. how do we ensure that test results are accurate and legally defensible?)

14 The conclusions that are drawn from these questions should guide you to a well thought-out and rational decision.

Methods of testing

15 There is a variety in both the methods used for employee testing and in the standards of service offered by drug testing companies. As yet there is no universally accepted accreditation scheme or quality standard.

16 It should also be clearly understood that there is a significant difference between testing for alcohol and testing for other drugs.

17 Alcohol testing indicates whether an individual is under the influence *at that time.* Drug testing - shows traces of drugs used in the past but does not necessarily confirm impairment at the time of testing.

Methods of testing for alcohol use

18 Alcohol use can be tested by:

(a) **Breath testing** - a 'breathalyser' measures the level of alcohol in the breath. This is convenient and inexpensive. Employees may be tested prior to commencing a shift, or immediately following an incident.

(b) **Blood testing** is the most accurate measure of alcohol in the body although it is more invasive than a breath test. It is often inappropriate in a workplace setting due to lack of staff suitably trained to take samples.

Methods of testing for drug use

19 Drug use may involve the use of illegal drugs, or prescribed and over-the-counter medicines. These can be detected by gaining samples from:

(a) **oral fluid:** not as invasive as other methods but a relatively new technology so may be expensive or inaccurate

(b) **hair:** not accurate for recent use, but depending on hair length the sample may reflect the individual's drug use pattern over a course of months

(c) **blood:** very invasive, but can be more accurate than others

(d) **urine:** potentially invasive, but well established science

(e) **sweat.**

1.6.4.10 Disciplinary procedures

1 The majority of Contractors shall have a disciplinary procedure in place. It may be appropriate to ensure the procedure covers the consumption of alcohol or drugs in the workplace. You may also wish for the policy to contain a provision that possession, dealing or trafficking in drugs will be reported to the police.

2 For a drug and alcohol policy to be effective, it is essential that it is consistent with disciplinary procedure.

Taking disciplinary action

3 Employees with a substance misuse problem or suspected of misusing drink or drugs should have the same rights to confidentiality and support as they would if they had any other medical condition

4 It can be very difficult for employees to discuss or openly admit to having a drink or drugs problem, because of the stigma or fear of reprisals, or the difficulty they have facing up to the issue.

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1.6.4 Appendix 1

Example alcohol and drug misuse policy and procedure

1 Any policy should reflect the requirements of the Contractor and must be implemented in practice. Introducing a policy that is not followed or is inappropriate to the business may be worse than not having a policy at all. The policy imposes obligations on you as a Contractor as well as your employees. If you have a policy you may, for example, have to agree to treatment for employees where you may otherwise have simply followed the disciplinary procedure.

2 Furthermore, if a policy is adopted it must be reviewed regularly to ensure that it is working and changed as necessary. You must also ensure the employees remain aware of the policy and its consequences.

Policy

3 The company recognises the potential dangers of alcohol, drug and solvent misuse, known as substance misuse, to both the individual and the company.

4 The company aims to prevent, where possible, alcohol, drug and solvent misuse amongst employees and to detect at an early stage employees with problems.

5 The company aims to prevent misuse, where possible, and will offer assistance such as counselling or leave of absence from work if required for treatment. There may be, however, some instances when this offer may not be appropriate and managers must assess each case individually.

Rules

6 Employees must not use, possess, conceal, transport, promote, or sell prohibited substances whilst on company premises, in company vehicles, on client premises or at the work site.

7 Employees must not report for work under the influence of alcohol or other drugs

8 Employees must not consume alcohol in the office or on site except on occasions approved by a senior manager.

Establishing the problem

9 Managers should be aware that the misuse of drugs, alcohol or solvents by employees may come to light in various ways. The following characteristics, especially when arising in combinations, **may** indicate the presence of a substance problem.

Absenteeism

10 Instances of unauthorised leave.

11 Frequent Friday/Monday absences.

12 Leaving work early.

13 Lateness (especially on returning from lunch).

14 Excessive level of sickness absence.

15 Strange and increasingly suspicious reasons for absence.

16 Unusually high level of sickness for colds, flu, and stomach upsets.

17 Unscheduled short-term absences, with or without explanation.

High incident level

18 At work.

19 Elsewhere, for example driving, at home.

Work performance

20 Difficulty in concentration.

21 Work requires increased effort.

22 Individual tasks take more time.

23 Problems with remembering instructions or own mistakes.

Mood swings

24 Irritability.

25 Depression.

26 General confusion.

Self-referral

27 In some instances, employees may come forward voluntarily and seek help themselves.

Manager's responsibility

28 A manager is the individual responsible for a specific set of tasks and who has the power to issue orders, decisions and controls the resources and expenditures

29 A manager who suspects one of their employees of having a substance misuse problem must discuss the matter with the relevant manager/director before approaching the employee with their concern.

30 The manager will then discuss the matter with the employee and try to establish the cause of the problem (although it must be pointed out that individuals with a drugs or alcohol problem will often go to great lengths to conceal the situation).

31 The employee should be reminded or informed of the assistance the company is prepared to give employees who are trying to overcome an alcohol or drugs problem and should be informed of outside agencies where help can be obtained.

32 The employee should be informed that the company requires his or her performance to be improved to an acceptable and specifically outlined standard and that failure to achieve this will result in dismissal. The manager, having consulted with the director, should agree with the employee what follow-up action is to be taken. Where it is established that alcohol or drugs is or could be the problem, an appointment should be arranged with the company doctor or local

drug and alcohol service provider.

33 If the employee denies that either alcohol or drugs are the cause of the problem (whether believed or not), he should be treated as for any other disciplinary/capability problem, whichever is judged as appropriate by the manager and director.

34 However, if there are strong signs that the employee's unsatisfactory performance is drug or alcohol-related and he will not admit or acknowledge this, further encouragement should be given at all stages of the disciplinary/ capability procedure to face up to the problem.

Treatment and assistance

35 Where employees acknowledge that they have a problem and are given support and treatment, this will be on the understanding that the company will give employees, assessed as having a substance misuse problem, all reasonable time off in accordance with the company's Absence Policy.

36 Every effort should be made to ensure that, on completion of the recovery programme, employees are able to return to the same or equivalent work.

37 However, where such a return would jeopardise either a satisfactory level of job performance or the employee's recovery, the appropriate director will review the full circumstances surrounding the case and agree a course of action to be taken. This may include the offer of suitable alternative employment, or the consideration of retirement on the grounds of ill health or dismissal. (Before a decision on dismissal is made, it should be discussed with the employee and an up-to-date medical opinion obtained.)

Relapse

38 Where an employee, having received treatment, suffers a relapse, the company will consider the case on its individual merits. Medical advice will be sought in an attempt to ascertain how much more treatment or rehabilitation time is likely to be required for a full recovery. At the company's entire discretion, more treatment or rehabilitation time may be given in order to help the employee to recover fully.

Recovery unlikely

39 If, after the employee has received treatment, recovery seems unlikely, the company may be unable to wait for the employee any longer. In such cases, dismissal may result but in most cases a clear warning will be given to the employee beforehand and a full medical investigation will have been undertaken.

Drug screening programme

Procedure

40 Employees may be required to submit to a test to check for the presence of drugs or alcohol under the following circumstances.

(a) Following an accident or incident on company or client premises, at a work site or involving a Contractors vehicle.

(b) Following the discovery of a prohibited substance on company premises.

(c) Where there is reason to suspect that the employee may be under the influence of a prohibited substance.

(d) Where it is suspected there has been a breach of the policy, for example high individual accident experience, excessive absenteeism, observed erratic behaviour and/or deteriorating job performance.

Refusal to take a drugs test

41 If the employee refuses to take a drugs test, the employee will be subject to action under the company's disciplinary procedure up to and including dismissal.

Release of the test result

42 It is a condition of employment that all employees agree to the release of the results of screening for prohibited substances as required.

Right of search

43 The Contractor reserves the right to search the person, his or her possessions and/or immediate work area, who works, visits or performs services on company premises. Where practical, in arranging for the search of *the person* to be carried out:

(a) the police will be contacted in the first instance

(b) the person to be searched will be entitled to have a colleague present

(c) the search will be carried out by someone of the same sex.

Serious misconduct caused by alcohol, drugs or solvents

Intoxicated employees

44 If an employee is known to be, or is strongly suspected of being, intoxicated by alcohol, drugs or solvents during working hours, arrangements will be made for the employee to be escorted from the company premises immediately. The Contractors doctor may also be consulted on the incident. Disciplinary action will take place when the employee has had time to become sober.

Consumption of alcohol on the premises

45 Employees are expressly forbidden to consume alcohol when at work or to bring alcohol onto company premises under any circumstances. Any breach of this rule will result in disciplinary action being taken which is likely to result in summary dismissal.

Education and training

46 The Contractor will provide training for appropriate staff in recognising and responding to the early stages of alcohol or drugs problems amongst employees. The Contractor will provide health educational initiatives to raise awareness of the policy and the risks associated.

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1.6.4 Appendix 2

Commonly misused substances

Name (street or trade name)	How usually taken	Effects sought	Harmful effects include
Heroin*(Smack, horse, gear, H, junk, brown, stag, scag, jack)*	Injected, snorted or smoked	Drowsiness, sense of warmth and well-being	Physical dependence, tolerance, overdose can lead to coma and even death. Sharing injecting equipment brings risk of HIV or hepatitis infection
Cocaine*(coke, charlie, snow, C)*	Snorted in powder form, injected	Sense of well-being, alertness and confidence	Dependence, restlessness, paranoia, depression, damage to nasal membranes
Crack*(freebase, rock, wash, stone)*	Smokable form of cocaine	Similar to those of snorted cocaine but initial feelings are much more intense	As for cocaine but, because of the intensity of its effects, crack use can be extremely hard to control, damage to lungs
Ecstasy*(E, XTC, doves, disco biscuits, echoes, scooby doos)*Chemical name MDMA	Swallowed, usually in tablet form, occasionally snorted as a powder	Alertness and energy but with a calmness and sense of well-being towards others. Heightened sense of sound and colours	Possible nausea and panic, overheating and dehydration if dancing, which can be fatal. Use has been linked to liver and kidney problems. Long-term effects not clear but may include mental illness and depression

LSD*(acid, trips, tabs, dots, blotters, microdots)*	Swallowed on a tiny square of paper	Hallucinations, including distorted or mixed-up sense of vision, hearing and time. An LSD trip can last as long as 8-12 hours	There is no way of stopping a bad trip which may be a frightening experience. Increased risk of accidents can trigger off long-term mental health problems

Name (street or trade name)	How usually taken	Effects sought	Harmful effects include
Magic mushrooms*(shrooms, mushies)*	*Eaten raw or dried, cooked in food or brewed in tea*	*Similar effects to those of LSD but the trip is often milder and shorter*	As for LSD, with the additional risk of sickness and poisoning
Barbiturates*(barbs, downers)*	Swallowed as tablets or capsules, injected - ampoules	Calm and relaxed state, larger doses taken to produce a drunken effect	Dependence and tolerance, overdose can lead to coma or even death. Severe withdrawal symptoms
Amphetamines*(speed, whizz, uppers, billy, sulph)*	In powder form, dissolved in drinks, injected, sniffed or snorted	Stimulation of the nervous system, wakefulness, feeling of energy and confidence	Insomnia, mood swings, irritability, panic. The comedown (hangover) can be severe and last for several days
Cannabis*(hash, dope, grass, blow, ganja, weed, shit, puff, marijuana, skunk*)*	Rolled in tobacco into a spliff, joint or reefer and smoked; smoked in a pipe or eaten *Also smoked from a 'bong' waterpipe	Relaxed, talkative state, heightened sense of sound and colour	Impaired co-ordination and increased risk of accidents, paranoia, poor concentration, anxiety, depression, increased risk of respiratory diseases including lung cancer. Possible risk of developing mental health problems, especially schizophrenic conditions

Tranquillisers*(brand names include Valium, Altivan, Mogadon (moggies), Temazapam (wobblies, mazzies, jellies))*	Swallowed as tablets or capsules, or injected	Prescribed for the relief of anxiety and to treat insomnia. High doses cause drowsiness	Dependency and tolerance, increased risk of accidents, overdose can be fatal, severe withdrawal symptoms

Name (street or trade name)	How usually taken	Effects sought	Harmful effects include
Anabolic steroids*(many trade names)*	Injected or swallowed as tablets	With exercise can help to build up muscle. However, there is some debate about whether drug improves muscle power and athletic performance	For men: erection problems, risk of heart attack or liver problems For women: development of male characteristics Injecting equipment brings risk of HIV or hepatitis infection
Poppers*(alkyi nitrates, including arnyl nitrate with trade names such as Ram, TNT, Thrust)*	Vapours from a small bottle of liquid are breathed in through mouth or nose	Brief and intense head-rush caused by sudden surge of blood through the brain	Nausea and headaches, fainting, loss of balance, skin problems around the mouth and nose, particularly dangerous for those with glaucoma, anaemia, breathing or heart problems
Solvents*(including gas lighter refills, aerosols, glues. Some paint thinners and correcting fluids)*	Sniffed or breathed into the lungs	Short-lived effects similar to being drunk and disoriented, possible hallucinations	Nausea, thick-headed, dizziness, blackouts, increased risk of accidents. Fatal heart problems can cause instant death

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1.6.5 Safety Critical Communication

1.6.5.1 Key points

1 Good communication is essential for the management of health and safety on construction sites.

2 A translator must be available onsite for each and all languages spoken on the project.

3 Contractors are legally required to provide information that is 'comprehensible', i.e. provided in a format and/or language that can be understood by the worker.

4 This requirement can result in problems where the recipients of the information have limited or no understanding of Arabic and/or English, particularly during site induction.

5 Communicating using images has the potential to overcome these problems, regardless of the mix of languages spoken on site.

6 A bank of images, each representing a hazard or a simple instruction has been developed.

7 It is likely that it will be necessary to hold separate training sessions to assess the understanding of safety critical words and phrases by those with Arabic and/or English language problems.

8 Confirming that the workers being assessed can associate each image with a spoken short phrase in plain Arabic and/or English, will give supervisors and managers confidence that the workers have an understanding of safety critical words in Arabic and/or English.

9 Due to their simplicity, these phrases aid translation into other languages, if needed.

10 Before using any images, workers' competence, training and language skills must be assessed. This will also indicate the level of supervision required generally.

11 The images can be used to support site inductions, tool box talks or other training, or superimposed on site plans to identify the location of welfare facilities, fire-fighting equipment, and so on.

12 The images also help to fill gaps in translation, as well as improving memory recall of site rules.

13 If appropriate, the images can enhance and complement existing procedures rather than replace them.

14 An understanding of the images should not be solely relied upon to ensure that work of a higher risk nature can be carried out safely.

1.6.5.2 Introduction

1 Good communication is essential for the management of health and safety on construction sites. The number of workers on sites, where Arabic and/or English is not their first language, has increased over recent years. Some of these workers have excellent skills in spoken and written Arabic and/or English, but there are others for whom understanding Arabic and/or English is a problem. This can be a barrier to effective communication of health and safety information.

1.6.5.3 Relevant health and safety legislation

Health and Safety at Work

1 Contractors to provide employees with any necessary information and adequate training to ensure their health and safety at work.

1.6.5.4 The Management of Health and Safety at Work

1 The requirements of these Regulations:

(a) requires Contractors to provide 'comprehensible' information on the:

(i) risks identified in their risk assessment

(ii) preventative and protective measures identified as necessary by risk assessments

(iii) emergency procedures on site

(iv) risks arising from the work of other contractors

(b) duties on Contractors to provide 'comprehensible' information to subcontractors and the self-employed

(c) duty on Contractors to take into account the capabilities of their employees. This includes their capability to understand instructions and training given in Arabic and/or English

(d) places duties on Contractors regarding the employment of temporary workers or those supplied by a labour agency. Before starting work these workers need to be supplied with 'comprehensible' information on:

(i) any special occupational qualifications or skills required to enable the worker to work safely

(ii) the requirement for any health surveillance arising out of the work to be carried out.

2 The word 'comprehensible' can be taken to mean **provided in a format that can be understood by the worker.** The Contractor can provide information in a form which takes into account any language difficulties and suggests the use of symbols as one way of doing this.

1.6.5.5 Construction (Design and Management) CDM

1 These Regulations place duties on the Contractors to ensure that workers are provided with instruction and training, with specific references made to induction training and site rules.

1.6.5.6 Managing the situation

1 Contractors who engage workers who cannot speak or understand the language of their workers shall hire a competent bilingual supervisor who can give information, instruction and training to workers. Pre-start assessments.

2 Another option is for training materials to be translated or to be represented in a pictorial form (images). The effectiveness of images to overcome language barriers has been confirmed through research.

1.6.5.7 Pre-start assessments

1 Before any worker starts on site certain facts must be established. These are the level of:

(a) the worker's competence and training

(b) the worker's understanding of Arabic and/or English

(c) supervision required.

2 The type of work to be done by the worker will dictate the required level of competence and identify any training needed. Regardless of language issues foreign workers must meet the level of competence and training expected of **any** worker asked to do the task(s). Therefore,

contractors shall apply the same criteria for non/low-Arabic and/or English speaking workers as they do for Arabic and/or English speakers, which will require a documented competency assessment.

3 Failure to prove an acceptable level of competence will require that further training is provided before considering the other pre-start factors.

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