1 REGULATORY DOCUMENT
1.1 QATAR LEGISLATION AND MANAGEMENT

FOREWORD

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 All regulations and requirements shall comply with the latest compulsory regulations or requirements issued by the Ministry of Administrative Development, Labour & Social Affairs, and any other concerned Authority.

3 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	8	Building Demolition and Waste Management	8.1.6	Safety
4	1	10	Welfare, Occupational Health and Safety	All	All
5	1	11	Engineer's Site Facilities	11.4.6	Safety Equipment and Clothing
6	1	14	Temporary Works and Equipment	14.4	Test Certificates for Cranes and Lifting Tackle
7	1	15	Temporary Controls	All	All
8	1	16	Traffic Diversions	16.1.3	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	Protective Coatings and Painting	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 Related Issues 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

Qatar Regulatory Document
Notes for Users

Legislation and Management

Occupational Health and Safety

Introduction

1 This Regulatory Document is designed to help managers, supervisors and safety representatives comply with their legal, moral and social responsibilities and assist in the crucial areas of:

(a) accident prevention

(b) the avoidance of occupational ill health

(c) Environmental good practice.

(d) Worker Welfare

2 The Regulatory Document seeks to maintain a balance between outlining the requirements of legislation, as it applies to the Qatar construction industry, and providing practical guidance on how to comply with these applicable Regulations.

3 Contractors will therefore be able to assess the legal responsibilities of themselves and others and decide how best to organise work activities in a safe and healthy manner.

4 This Regulatory Document is a set of regulations which makes provision for securing the health, safety and welfare of persons at work, for protecting others against risks to health or safety in connection with the activities of persons at work and for controlling the keeping and use of dangerous substances.

5 It is an essential piece of legislation covering occupational health and safety in Qatar and focuses on the construction industry placing legal obligations as from project design concept. It focuses on planning, design and management of construction projects and places legal obligations on everyone involved at work and in construction.

6 The Regulatory Document is designed to help Clients, Designers, Contractors, Subcontractors and others to comply with their legal, moral and social responsibilities and assist in the crucial areas of:

(a) Project planning, design and management for better occupational health and safety performance

(b) It imposes legal requirements for safety consideration in the future stages of the project life cycle, namely use, operations and maintenance, cleaning, decommissioning and replacement of facilities, plant and equipment etc.

(c) Safety planning for construction, use and maintenance

(d) Incident prevention at work

(e) Avoidance of occupational ill health

(f) Safety, health and environmental good practice.

7 Designers and Contractors have legal obligations to promote, plan, implement and showcase good health, safety and welfare management in relation to their undertakings.

Structure of the Health and Safety Regulations in QCS

1 The Occupational health and safety legislation of the QCS is formed mainly under **Section 11 Part 1: Regulatory Document** and guidance is given in **Part 2: Safety and Accident Prevention Management Administration System (SAMAS)**

2 Other references of Occupational health and safety in QCS are summarised in the table in the above section.

The word Regulations is used throughout this document and refers hereafter to the Qatar Regulatory Document

Definitions / Interpretations

1 These Regulations contain words and phrases with a meaning that is defined in the legislation.

2 Words and phrases such as 'construction work', 'structure', 'approved', 'lifting gear' and 'working platform', have such a legal definition.

3 Definitions of the more common terms are outlined below.

4 **Hazard:** The potential to cause harm, including ill health and injury; damage to property, plant, products or to the environment; production losses or increased liabilities.

5 **Risk:** The likelihood that a specified undesired event will occur, due to the realisation of a hazard by, or during, work activities or by the products and services created by work activities.

6 **Danger:** A person is in danger when they are exposed to a risk. The degree of danger is dependent on the nature of the hazard or degree of risk.

7 **Competent person:** A person who has practical and theoretical knowledge and actual experience of the work activities that they are required to do. A person's competence will, in some cases, be tangibly demonstrated by the award of a qualification or other recognition of training received.

8 **Practicable:** Where a legal requirement is qualified by the word 'Practicable', the specified measures must be taken if it is physically possible, irrespective of cost, difficulty or inconvenience.

9 **Reasonably practicable:** Where a legal requirement is qualified by the term 'Reasonably practicable', the cost (in terms of money, time and inconvenience) of taking precautions may be balanced against the risk being considered.

10 **Employer:** means any person, company or organisation who has an employment relationship with the employees or workers and has responsibility for the undertaking and/or establishment and includes any ‘self-employed’ in relation to the undertaking. In relation to construction site, the Employer is the Contractor.

Note:

11 Whenever these Regulations are being applied, attention should be paid to the section at the start of each piece of legislation, entitled 'Interpretation', where definitions and other important provisions may be listed and explained.

Reference:

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:

EN 471……. Specification for high visibility warning clothing

Occupational Health and Safety

1.1.1 Occupational Health and Safety at Work including Construction Sites

1.1.1.1 Key points

1 These Regulations place legal duties on Contractors, Employers, Self-employed, Employees and others with respect to all transactions carried out in Qatar.

2 Under the Regulations, there is a special focus on construction works, construction sites and Contractors who undertakes or manages construction work on site.

3 Legal duties are also placed on manufacturers, designers, contractors, sub-contractors, importers and suppliers of articles for use in the workplace.

4 Contravening these Regulations is a criminal offence and punishable in a Qatar Court of Law

5 These Regulations place a duty on the Qatar Administrative Authority where no other body has been given the responsibility.

Note: Section 1, Part 7 of the QCS covers submittals associated with construction sites and includes a health and safety organization chart and the health and safety plan. General safety requirements are specified in Section 1, Part 2 of the QCS.

1.1.1.2 Aims and scope of this Regulatory Document

1 The regulations aim to promote and enforce high standards of health, safety and welfare in the Qatar workplace especially with special regards to construction workplaces or construction sites. Hence contractors and sub-contractors and others have to implement effective standards of health, safety and welfare management onsite and in connection with their business.

2 This Regulatory Document (Regulations) provides for a comprehensive framework to promote, stimulate and encourage high standards of health and safety in the Qatar construction workplace. Its ultimate aim is to promote health and safety awareness and effective standards of health and safety management by every Contractor.

3 It is a requirement under these regulations that everyone is involved and made responsible for their acts towards health and safety. Hence the scope of this document relates to organisation, companies and individuals and requires everyone to make responsible for health and safety-starting from-management, the employees, the self-employed, the employees' representatives, the controllers of premises and the manufacturers of plant, equipment and materials - in the matters of construction site health and safety. The Regulatory Document (Regulations) also requires that adequate measures are taken to protect the public where otherwise their health or safety would be at risk.

1.1.1.3 Standards of compliance

1 In many instances the Regulatory Document (Regulations) places a legal duty which is qualified by the words **practicable** (or best practicable means) or **reasonably practicable.**

2 Where a legal duty is qualified by the word **practicable** the duty must be complied with if it is 'capable of being carried out' or 'feasible within the current state of knowledge and technology', at whatever expense, taking note of published information, Guidance Notes or relevant British/International Standards.

3 In practical terms a legal duty qualified by the word **practicable** cannot be disregarded on the grounds that to comply with it would slow up the building programme, be expensive, difficult or otherwise inconvenient.

4 Where a legal duty is qualified by the term **reasonably practicable** Contractors are allowed to exercise their judgement on the extent of the measures that need to be taken to ensure the health and safety of whoever is carrying out the job and others who may be affected by it.

5 This judgement should be based upon the findings of a risk assessment.

6 Where the risks to health and safety in carrying out a job are found to be low in comparison to what would be disproportionately high costs to overcome the risks totally, the Contractors need only take the measures that are considered to be **reasonably practicable.**

7 Should there be a legal dispute as to a decision of what was or was not **reasonably practicable,** the onus of proving in court that all **reasonably practicable** measures were taken lies with the Contractors.

8 Managers, supervisors, safety supervisors and safety representatives and others with a responsibility for ensuring legal compliance will be mainly concerned with the following:

1.1.1.4 Administrative Authority

1 The Qatar Administrative Authority has the powers under these regulations to examine, to investigate and to seize and take possession of any matter relating to health, safety and welfare of workplaces and construction sites. They have the power to advise and enforce the law on any matter relating to health, safety and welfare of workplaces and construction sites.

Investigation

2 Administrative Authority Workplace Inspectors are given a general right to examine and investigate as may be necessary. They may enter premises (accompanied by a police officer or other authorised person if necessary), taking with them any equipment or material required by them for the purposes of the examination. They may direct that anything shall be left undisturbed if required for examination or investigation, take measurements, samples, photographs and such recordings as may be necessary. They may have dismantled or tested any article or substance considered dangerous, or take possession of any article for examination and evidence.

3 Administrative Authority Workplace Inspectors may inspect or take copies of books or documents. They may demand from an employee any information they think necessary and can ask the employee to sign a declaration of the truth of their answers. In general, they can demand the full co-operation of any person to provide them with such facilities and assistance as they may think necessary.

Advisory

4 Inspectors also act as a source of information and advice. It is their duty to inform employees about anything that may affect their health and safety at work.

Enforcement options

5 Administrative Authority Workplace Inspectors can use any of the powers listed below against any person taking part in, or in control of, any work activity, or piece of equipment. 'Any person' means a Contractor, self-employed person, a supplier, or the employee.

(a) Informal

(b) Workplace Inspectors may give advice on compliance in the case of minor breaches.

(c) Formal letter

(d) A formal letter may contain details of breaches and action needed to comply with the legislation. It may also contain more detailed and formalised advice. Whilst visiting a

site, a Workplace Inspector can prepare an Instant Visit Report with a date agreed for work to be completed.

(e) Improvement Notice

6 Where a breach is more serious, the Inspector may issue an Improvement Notice, which will outline the work required and the date for completion. This will be at least 21 days from the date of receipt.

(a) Prohibition Notice

7 If an activity involves, or is likely to involve, a serious risk of personal injury, the Inspector may serve a Prohibition Notice to stop that activity immediately or after a specified time.

(a) Prosecution

8 In addition to the enforcement outlined above, the Inspector may consider that it is also necessary to prosecute.

Appeals

9 Anyone served with an Improvement or Prohibition Notice has the right to appeal. This must be done within 21 days of the issue of the Notice. The Administrative Authority may cancel or modify the Notice:

(a) on appeal following the issue of an Improvement Notice, the Notice will be suspended until the relevant board meets and decides the issue

(b) on appeal following the issue of a Prohibition Notice, the Notice will stand until the appeal has been decided, or the relevant board orders it to be suspended.

10 Where a person has been prosecuted for failing to comply with a duty or requirement of this Regulatory Document (Regulations), and is claiming that it was not **reasonably practicable** for them to carry out that duty or requirement, **it is the responsibility of that person** to prove that it was not **reasonably practicable** to comply, and that there was no **reasonably practicable** alternative way in which they could have carried out that duty or requirement.

Occupational Health and Safety – Construction Site Safety

1.1.2 Duties, Responsibilities, Offences and Penalties etc.

1.1.2.1 Key points

1 The purpose of this section is to:

(a) Outline the legal duties placed upon Contractors/Employers and employees while at work in Qatar.

(b) Emphasise that where health and safety legislation places legal duties on the Contractors, in most cases the duties also apply to the self-employed.

1.1.2.2 Introduction

1 This section is designed to give both Contractors and employees details of their legal duties / responsibilities at work.

1.1.2.3 Responsibilities

1 Set out over the following pages are the principal legal duties of Contractors and employees.

1.1.2.4 Legal duties of Contractors

1 The Contractor/Employer shall protect the health, safety and welfare of their employees and other people who might be affected by their business. This means making sure those workers and others are protected from anything that may cause harm, effectively controlling any risks to injury or health that could arise in the workplace.

2 Contractors will usually be site-based and in a position to fulfil their legal duties by directly controlling the workforce and monitoring the standards of health and safety on site. By comparison, in larger companies the Contractors will not normally be site-based and it is usual for them to delegate responsibility for day-to-day legal compliance to site-based staff such as Site Managers. It may be necessary for Site Managers to further delegate the responsibility for overseeing the health and safety aspects of some work activities to trade supervisors. Whatever the circumstances, the duty to ensure compliance with health and safety legislation stays with the Contractors.

3 These Regulations place a general duty on every Contractor to ensure, so far as is **reasonably practicable,** the health, safety and welfare at work of all their employees.

4 Contractors must, so far as is **reasonably practicable**

(a) protect the health, safety and welfare at work of all their employees.

(b) provide and maintain plant and systems of work that are safe and without risk to health.

(c) ensure safety and absence of risks in the use, handling, storage and transport of articles and substances.

(d) provide any necessary information, including information on legal requirements, to ensure the health and safety of their employees.

(e) provide adequate supervision and training, as is necessary, to ensure the health and safety of their employees.

(f) provide and maintain a safe and healthy place of work, with safe access and egress.

(g) provide and maintain a working environment that is safe and without risks to health and is adequate with regard to welfare facilities and arrangements for welfare at work.

(h) to ensure, as far as is **reasonably practicable,** that the conduct of their activities does not endanger persons not in their employment who may be affected by operations under their control, for example, subcontractors or the public.

5 Contractors must **not:**

(a) levy a charge, or permit any employee to be charged for anything required to be provided in pursuance of any of the relevant statutory provisions i.e. Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE).

(b) The regulations place a general duty on 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 thereby are not thereby exposed to risks to their health or safety.

1.1.2.5 Legal duties of the self-employed

1 Generally, where legislation places legal duties on Contractors/Employers with regard to ensuring the health and safety of their employees, similar duties are also placed on the self-employed with regard to ensuring their own health and safety.

1.1.2.6 Legal duties of the Employees

1 These Regulations place two general duties on employees:

(a) to exercise reasonable care for the health and safety of themselves or others who may be affected by their acts or omissions at work.

(b) to co-operate with the Contractors, as far as may be necessary, to enable them (the Contractors) to carry out their legal duties in health and safety matters.

2 All employees and workers have a right to work in places where risks to their health and safety are properly controlled. The contractor or the employer is responsible for providing for their health, safety and welfare.

3 Employees shall take reasonable care of their own and other people's health and safety.

4 Employees shall follow the training that they have received when using any work items that the contractor or employer has provided.

5 Employees shall co-operate with their employer on health and safety.

6 Employees shall tell the employer, the supervisor, or the health and safety representative if they think the work or inadequate precautions are putting anyone's health and safety at serious risk.

1.1.2.7 Duty on 'all people'

1 This Regulatory Document (Regulations) places a duty on 'all persons' to:

'not intentionally or recklessly interfere with anything provided in the interests of health, safety and welfare'.

Not only does it apply to Contractors and employees but it also applies to members of the public.

1.1.2.8 Duties of manufacturers, designers, importers and suppliers

1 A general duty is placed on any person who manufactures, designs, imports or supplies any article, materials or substance for use in a workplace or a construction site shall ensure, so far as is **reasonably practicable,** that articles and substances are, by design and construction, safe and without risks to health when being used, set, cleaned or maintained by persons at work.

1 For example, information on design noise levels under normal working conditions should be supplied if noise levels may be a risk to health, or exceed the lower exposure action value specified in the Noise at Work section of this Regulatory Document. Similarly, manufacturers of tools that may be a source of hand/arm vibration must provide details of the levels of vibration generated.

2 More specifically, a duty exists to ensure that arrangements are made to carry out the necessary testing, examination and research, and that steps are taken to provide adequate information about any conditions necessary to ensure that it will be safe when used.

3 A general duty is placed on installers or erectors of any article for use at work to ensure, so far as is **reasonably practicable,** that it is safe and without risk to health when used by persons at work.

1.1.2.9 Construction (Design and Management) CDM

1 The CDM Regulations place legal duties on planning and management arrangements for construction works. It places duties on everyone involved in construction and contractors have a set of specific duties under CDM.

2 The CDM regulations forms section 1.1.8 of the Regulatory Document

Contractor duties / Responsibilities

1 Refer to the CDM regulations forms section 1.1.8 of the Regulatory Document

Employee duties / Responsibilities

1 All employees must have a basic level of health and safety knowledge if they are to be safe when working on site and aware of their responsibilities to their Contractors and work colleagues.

2 To co-operate with the Contractors and follow any information, instructions and training that is provided.

3 Not to interfere with or misuse anything the Contractors has provided in the interests of health, safety and welfare.

4 Take reasonable care at all times and make sure that their actions or omissions do not endanger themselves or any other person.

5 Use all tools and equipment safely and in accordance with instructions given or training received.

6 Report any defects or potential hazards in equipment to the Contractors (or supervisor if appropriate) as soon as possible.

7 Make proper use of any safe system of work or mechanical means provided by the Contractors in connection with manual handling.

8 Only operate plant and equipment for which training has been provided and authority given to use.

9 Use the personal protective equipment supplied by your Contractors correctly, take care of it and report any loss or defects in the equipment.

10 Report to the Contractors any work situation that might present danger.

11 Not to erect, alter or dismantle scaffolding unless competent to do so or under the supervision of a competent person.

12 When operating goods hoists: keep the gates closed except when loading, etc. do not over-ride any controls do not allow any passengers.

13 Use only the proper safe means provided for entering and leaving an excavation.

14 Do not block or obstruct any access or means of escape.

15 Make full use of any control measures provided to prevent or limit exposure to substances hazardous to health, and wear the personal protective equipment provided.

16 Observe safe use and handling instructions for hazardous substances.

17 Do not use a mobile elevating work platform for any other use than as a work platform.

18 Co-operate with Administrative Authority Workplace Inspectors, as required.

19 Do not remove safety guards or render inoperative any safety device fitted to any plant or equipment.

20 Do not ride on plant or vehicles in unauthorised and insecure places.

21 Recognise the importance of personal hygiene, especially when working with substances harmful to the skin.

22 Never exceed the safe working load of any lifting equipment.

23 Understand and comply with all signs and notices that are displayed.

24 Wear ear protectors in designated areas where mandatory warning signs are displayed.

25 Know how to report accidents and to whom.

26 Follow all company and site health and safety rules.

27 Report to the Contractors any activity or defect relating to work at height that can be considered unsafe.

28 Use equipment and safety devices for working at height in accordance with training and instructions received.

29 Attend health surveillance procedures, as required, during working hours and at the expense of the Contractors.

1.1.2.10 Powers of the Qatar Administrative Authority, Workplace Inspectors

1 Set out below is a summary of the main powers which Inspectors possess when carrying out their duties under this Regulatory Document (Regulations). Officers of the Qatar Administrative

Authority also have enforcement powers when dealing with matters concerning fire prevention.

1.1.2.11 Qatar Administrative Authority Workplace Inspectors may do the following:

1 Prosecute a company or an individual for a breach of this Regulatory Document (Regulations).

2 Visit or carry out an inspection of a construction workplace at any reasonable time without giving prior notice, engaging the assistance of the police if necessary.

3 Issue a Prohibition Notice stopping a work activity where there is a risk of serious personal injury.

4 Stop the further use of any equipment if it is considered to be a serious risk to health or safety.

5 Issue an Improvement Notice requiring remedial work to be carried out within a specific time, where there is a breach of health and safety legislation.

6 Investigate accidents or dangerous occurrences in the workplace.

7 Require that any designated part of a premise remains undisturbed for as long as is deemed necessary.

8 Investigate a particular work activity or any plant or equipment following a complaint or accident.

9 Take measurements, photographs and records as necessary.

10 Inspect or take copies of any books or records.

11 Demand the full co-operation of any person to assist them in their duties.

12 Demand information from a Contractor or employee and require them to sign a statement of their answers.

13 Remove or make safe any article or substance considered to be a source of danger or serious personal injury.

14 Require additional fire precaution work to be carried out on a construction site.

15 Provide information for Contractors and employees about hazards that may affect their health and safety at work.

16 Act as a source of information on construction health, safety and welfare at work.

1.1.2.12 Penalties that can be awarded

1 Qatar Labor Law Fourteen, Part Sixteen details the extent of penalties that may be charged upon the proof of violations regarding failure to comply with Qatar Construction Regulations.

2 The Contractor shall maintain an acceptable OHS performance at all times throughout the Contract duration. The criteria used for determining acceptable OHS performance are at the sole discretion of the relevant authority. The following items shall be taken into consideration when making assessments of acceptable performance;

(a) any stop work instructions issued to the Contractor

(b) any adverse comments arising from Occupational Health and Safety inspections

(c) any adverse comments arising from Occupational Health and Safety audits

(d) any adverse formal communication from the relevant authority to the Contractor regarding Occupational Health and Safety performance

(e) any adverse formal communication between the Contractor and enforcing authorities or government organizations

(f) any incidents occurring as a result of the Work undertaken by the Contractor.

3 Should acceptable Occupational Health and Safety (OHS) performance not be maintained by the Contractor then the relevant authority (such as MOL, owner, client, Engineer, Engineer Rep., …) may take any action at their discretion in furtherance to their powers (see sections 1.1.1.8 and 1.1.2.8) or may they will impose the penalties on the Contractor due to one/or more of the following Unacceptable Performance Criteria:

No.	Unacceptable Performance Criteria
1.	Commencement of Work on the Worksite without an approved Occupational Health and Safety Plan
2.	Commencement of Work on the Worksite without an approved Occupational Health and Safety Manager / Officer appointed and employed on a full time basis at the Worksite
3.	Failure to conduct risk assessments and develop method statements prior to work activities being undertaken
4.	Failure to appoint competent persons for specified activities (other than OSH Staff)
5.	Collapse of any scaffolding, temporary works or excavation
6.	Use of electrical installations in an unsafe conditions or electrocution of any person
7.	Person falling from a height of more than 2 meters due to unsafe working environment
8.	Person working at height of more than 2 meters without fall prevention or arrest
9.	Failure to maintain acceptable housekeeping, site tidiness, waste collection or waste disposal
10.	Collapse of any crane or lifting equipment
11.	Overturning of any mobile plant, equipment or vehicle on the Worksite
12.	Use of cranes, lifting appliances, mobile plant, equipment or vehicles by operators without valid driving license and the related training certificate
13.	Use of cranes and lifting appliances without valid 3rd party inspection / test certificate
14.	Person entering into a confined space without a permit to work
15.	Failure to provide safe access and egress at the Worksite and to the surround residential area
16.	Failure to provide and maintain proper suitable workers' accommodations, site welfare facilities, first aid box / kits and notice / sign board prior to commencement of Work
17.	Failure to plan and implement fire prevention and firefighting arrangements considering level of risks, type of work, sufficient quantity of fire extinguisher, escapes, signage, escape routes etc.
18.	Failure to posses and/or follow 'Permit to Work' system
19.	Permitting Contractor Personnel or Subcontractor's employees to enter the Worksite without proper PPE and clear identification
20.	Failure to conduct emergency drills at periods not exceeding 6 months throughout the duration of the Work
21.	Failure to notify the relevant authority of an incident or failure to provide an incident report to the relevant authority in a timely manner
22.	Failure to provide an accurate monthly OHS report in a timely manner or failure to correct workers' rights violation in a timely manner
23.	Failure to hold a monthly OHS committee meeting or failure to provide the OHS committee meeting minutes in a timely manner
24.	Failure to comply with the Employer audit requirements and to attend meetings or other events related to OHS and welfare issues organised by the Employer
25.	Failure to conduct regular Health Checks for all Workers and/or to provide HMC Health Card (or similar) for all Workers.

1.1.2.13 Health and safety questionnaire

1 The Contractor shall regularly assess the level of knowledge of employees to ensure that they have the understanding and skills to undertake a work activity.

2 Well informed and safety-conscious employees are a key part of health and safety. Before they progress further, the following 20 questions should be carefully read and answered by employees, preferably in writing. At the end of their training or induction, employees should be asked the questions again. You, the Contractor, will then be able to compare the level of knowledge before and after the training.

3 If you critically assess the answers you will gain an insight into your employees' need for further training and instruction.

4 Are you playing your part? Check against these questions.

(a) Are you aware that your company has a health and safety policy?

(b) Have you read your company's health and safety policy?

(c) Have you been trained to do the job you do or to operate the plant, machinery or tools you use?

(d) Do you know who your Safety Representative is or who will represent you?

(e) Do you know the procedures to be followed if you have an accident?

(f) Are you aware of the first aid arrangements at your place of work?

(g) Do you know where to get first aid?

(h) Do you know where the accident book is kept?

(i) Would you know what to do if there was a fire at your workplace?

(j) Do you know how to raise the alarm in the event of fire?

(k) Do you know the colour coding that is used for fire extinguishers?

(l) Are you aware of any potentially harmful substances in your place of work?

(m) Are you familiar with the identification symbols displayed on the containers of harmful and dangerous substances?

(n) Do you use correct manual handling techniques when moving or lifting loads?

(o) Have you been issued with all the necessary personal protective equipment?

(p) Are you fully aware of the hazards and risks in your job?

(q) Are you aware of the health and safety rules applying to your job?

(r) Do you know what you should do if you discover a potential risk to health and safety?

(s) Can you identify a 'confined space'? Are you aware of the potential hazards confined spaces may present?

(t) Are you aware of your company's Permit to Work system, if they have one?

1.1.2.14 Welfare questionnaire

1 The welfare questionnaire aims to conduct due diligence to ensure that worker welfare requirements are met.

(a) Are you aware of your company’s welfare policy?

(b) Have you read your company’s welfare policy?

(c) Do you know who your Joint Committee Representative is?

(d) Have you participated in the election of your Joint Committee representative?

(e) Do you know how to raise a grievance/complaint?

(f) Is your current job corresponding to your expectations when you joined the company?

(g) Do you have any issue related to your salary payment or leave entitlement?

(h) Is there any problem in your accommodation?

1.1.2 Appendix 1

ORGANISATION FOR HEALTH AND SAFETY MANAGEMENT

1 The table below can be used to record the area of responsibilities with respect to the organisation for implementation of the policy.

2 First column: Description of the area of responsibility the overall and final responsibility for ensuring that the health and safety policy is properly implemented and that the health and safety standards are achieved and maintained.

3 Second column: Include the contact details of those with the identified responsibility (In addition to the person(s) named in the arrangements section of this policy) to ensure that health and safety standards are achieved, maintained and improved.

AREA OF RESPONSIBILITY	POSITION or NAME
Contractors The person responsible for vetting the health and safety procedures and past health and safety performance of contractors who bid for contracts, is: The person with responsibility for approving the inclusion of each contractor on to the approved list of contractors is:	
Health and safety management The person responsible for the management and updating of the health and safety management system is: The person responsible for monitoring the day-to-day standards of health and safety, and instigating improvements where necessary, is: • at the company offices: • on each site: The person responsible for compiling and communicating health and safety information to each site is: The person responsible for compiling and comparing year-on-year health and safety accident statistics is: The person responsible for ensuring that the statutory inspections of plant, equipment and places of work are carried out, and that certificates are obtained and displayed where appropriate, is:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Health and safety procedures The person responsible for ensuring the adequacy of the scope and the accuracy of all health and safety procedures is: To effectively discharge this duty, they will: • monitor the adequacy of existing health and safety procedures • develop new health and safety procedures as necessary • maintain the currency of all health and safety procedures • communicate any change to any health and safety procedure and the publication of new health and safety procedure to all users.	
Liaison with senior management The person responsible for keeping senior management informed of day-to-day health and safety performance of the company is: The person responsible for informing senior management of any event which has attracted the attention of the Administrative Authority: The person responsible for submitting the annual health and safety report to senior management is:	
Liaison with external agencies The person who is the contact for any enquiries from the Administrative Authority is: The person responsible for reporting reportable accidents and other reportable events to the Administrative Authority is: The person responsible for liaising with the fire and rescue service about onsite hazards or hazardous work activities is:	
Worker consultation The person responsible for ensuring that an effective system of worker consultation is maintained is: The person responsible for ensuring effective worker consultation at site level is:	

HEALTH AND SAFETY RISKS ARISING FROM WORK ACTIVITIES

4 The control of the risks associated with the work done by the company can only be achieved by the proper use of risk assessments. Risk assessments will be carried out for all work done by the company. They will be reviewed at regular intervals.

AREA OF RESPONSIBILITY	POSITION or NAME
Accidents The company will investigate accidents as necessary to establish their root cause and prevent recurrence. The investigation will be proportional to the seriousness of the event and its likely implications. The person responsible for ensuring that all accidents are properly recorded in the accident book is: • at the company offices: • on each site: The person responsible for investigating the causes of accidents and suggesting or implementing remedial action is: • at the company offices: • on each site: The person responsible for ensuring that completed accident records are securely stored at the company offices is:	
Asbestos The company will investigate the possible presence of asbestos within its office premises and on the sites that it operates and if asbestos is found to be present, will properly manage it and record its presence in the asbestos register. The person responsible for the management of the presence of asbestos is: • at the company offices: • on each site:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Competency The company will provide induction training and job-specific training for all employees to ensure that they are fully competent to carry out the work that is required of them. The person responsible for assessing competency requirements and identifying shortcomings is;	
Competent health and safety advice The company accepts that there will be occasions where expert health and safety advice is needed for dealing with matters outside the company's normal scope of work. On such occasions the responsibility for raising awareness of the need for competent health and safety advice lies with: The responsibility for engaging competent health and safety advice lies with:	
Consultation with employees The company will endeavour to fully and effectively consult its employees on matters of health and safety in such a way that upward feedback will be welcomed, evaluated and acted upon where appropriate. Employees' health and safety representatives who will provide two-way communication between management and employees are:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Electrical safety The company will endeavour to manage its work activities so that no employee is put at risk by electricity. The following persons are responsible for their respective areas of electrical safety: • Check for hidden services: • Check for underground services: • Office installation inspection and testing: • On-site installation inspection and testing: • The management of risk from overhead cables:	
Emergency procedures - fire and evacuation The company will endeavour to ensure that no person is put at risk from the outbreak of fire. Fire risks will be addressed by a risk-based fire and evacuation plan for the company offices and one for each site. Fire and evacuation plans will be drafted (and amended as necessary) by: • at the company offices: • on each site: Deciding upon the range firefighting appliances required and suitable locations for them is the responsibility of: • at the company offices: • on each site: Arranging for the annual maintenance of firefighting appliances is the responsibility of: Arranging for the maintenance of fire alarms (where fitted) is the responsibility of:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Emergency procedures - fire and evacuation (continued) Initiating and monitoring the effectiveness of office emergency evacuation (fire drills) is the responsibility of: Initiating and monitoring the effectiveness of on-site emergency evacuation (fire drills) is the responsibility of: Arranging for the training of selected employees in the use of firefighting appliances is the responsibility of:	
Excavations and confined spaces The company will endeavour to organise work activities to eliminate or reduce the occasions when employees (or others) must enter an excavation or confined space. When entry into an excavation or confined space cannot be avoided, the company will ensure that the work is carried out in a safe manner by competent persons. The person responsible for developing safe systems of work, including rescue procedures, for working in excavations or confined spaces is: The person responsible for carrying out, or arranging, the training of employees to work in excavations and/or confined spaces is: The person responsible for ensuring the attendance of a rescue team during confined space working and their training is:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
First aid, accidents and work-related ill health The company will provide sufficient trained first-aid staff and first-aid equipment to provide adequate cover at all places where company employees are working or make arrangements to share the first-aid arrangements made by others. First-aid box(es) will be provided at the following locations: Office: On site: Trained first aiders or appointed persons work at the following locations: Office: On site:	Maintaining and replenishing the first-aid box(es) will be the responsibility of: These people are:
Induction and further training The company will ensure that each employee receives an adequate initial induction into the company and further information, instruction and training to enable them to work without risks to the health or safety of any person. The person responsible for ensuring the effective health and safety induction into the company of new employees is: The person responsible for carrying out, or arranging for, the induction of new persons on site is: The person responsible for carrying out the induction of office-based staff is: The person responsible for compiling and updating the training record of each member of staff is: The person responsible for establishing the need for the additional training of any individual is:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Induction and further training (continued) The person responsible for carrying out, or arranging, the additional training of any individual, including delivering toolbox talks, is: Training records: will be kept at: by: The person responsible for ensuring that employees working at locations under the control of other contractors (Contractors) are given relevant health and safety information and supervision is: Supervision of young workers or trainees will be arranged, undertaken and monitored by:	
Manual handling The company will endeavour to take all necessary measures to ensure that no employee is injured as a result of a manual handling activity. The person responsible for ensuring that employees are trained in the correct manual handling techniques, and that these techniques are applied, is:	
Monitoring the health and safety policy The company will periodically audit the effectiveness of its health and safety management system, in particular adherence to this policy. Audits will be carried out by: at the company offices: on each site:	
Monitoring the welfare policy The company will regularly assess the effectiveness of its welfare policy, in particular adherence to this policy at all levels. This assessment can be undertaken through audits of workers' accommodation, through engagement with the workers, or through an anonymous survey of workers' satisfaction.	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Noise The company will ensure, so far as is reasonably practicable, that the hearing of no employee is damaged as a result of exposure to noise at work. Where necessary, noise assessments will be carried out to protect employees from hearing damage. The person responsible for arranging such assessments is: Where the noise survey indicates a noise level of 80 db(A) (lower exposure action value), ear protection will be provided by: Where the noise survey indicates a noise level of 85 db(A) (upper exposure action value): the setting up of hearing protection zones and ensuring that employees use the hearing protection provided by the company will be the responsibility of: assessing the need for health surveillance and arranging for it where necessary is the responsibility of: The person responsible for ensuring that no employee is exposed to a noise level above 87 db(A) (exposure limit value) is:	
Office safety The company will ensure that all work conducted in the company offices, including that of external contractors, is carried out without risk to the health or safety of any person. The person responsible for general office health and safety is: The person responsible for carrying out display screen workstation assessments is: The person responsible for ensuring that work in company offices by external contractors is carried out without risk to the health or safety is:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Permits to Work The company will ensure that where appropriate all potentially hazardous work activities are carried out under a Permit to Work system and that the system is robustly developed and monitored. The person responsible for determining whether or not any particular work activity should be carried out under a Permit to Work is: The person responsible for raising, co-ordinating and closing Permits to Work is: The person responsible for training, or arranging the training, of employees who will have to work under any form of Permit to Work is:	
Personal Protective Equipment (PPE) The company will organise, so far as is reasonably practicable, its work activities in such a way that the use of PPE is not necessary. However, when it is deemed that PPE must be used, the company will ensure that appropriate PPE is provided and that adequate training in its use and maintenance is provided. The person responsible for ensuring that all PPE provided by the company is suitable, issued free of charge, and maintains an issue log, is: The person responsible for ensuring that employees are instructed in the proper use of PPE and ensuring that it is used where needed is:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Plant and equipment The company will ensure that all plant and equipment is suitable for its intended use, well maintained, inspected/examined where appropriate and operators are trained in its proper use. Identifying appropriate items of plant which must be hired or bought is the responsibility of: Ensuring the continued serviceability and fitness for purpose of all plant and equipment is the responsibility of: Monitoring the requirement for routine servicing, testing, maintenance inspections and statutory examinations for all plant is the responsibility of: Identifying the need for and arranging the training for plant and equipment operators is the responsibility of: Any employee discovering a defect in, or other problem associated with, an item of plant or equipment should report the facts to:	
Risk assessments / method statements The company will carry out suitable and sufficient risk assessments to cover all of its work activities. Pre-start site risk assessments will be undertaken and recorded by: Risk assessments for site-based activities will be reviewed at appropriate intervals and revised as necessary by: Risk assessments for the company's office-based work activities will be carried out, recorded and reviewed at suitable intervals by: Method statements for site-based activities will be compiled where appropriate and reviewed or revised as necessary by:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Safe handling and use of substances (COSHH) The company will ensure, so far as is reasonably practicable, that hazardous substances are handled, transported, used and stored in such a manner that the health of no person is harmed by their presence. All substances which require a COSHH assessment will be identified by: COSHH assessments will be undertaken, reviewed and amended as necessary by: The implementation and monitoring of all actions from COSHH assessments will be checked by: Providing at-risk employees with appropriate information from COSHH assessments is the responsibility of: at the company offices: on each site: Arranging for the safe disposal of residues and empty containers, is the responsibility of: Where necessary, health surveillance will be arranged by:	
Transport The company will ensure that it operates its transport in a way that does not put the safety of any person at risk. Where it is necessary to transport staff or materials by vehicle, either on or off site, the person responsible for ensuring that proper procedures are followed is: The person responsible for ensuring that all company vehicles are maintained in a legal, roadworthy and otherwise safe condition is: The person responsible for ensuring that work-related road risks are properly managed is:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Vibration The company will ensure, so far as is reasonably practicable, that the health of no person is put at risk as a result of exposure to vibration resulting from the company's work activities. Where necessary, expert advice on vibration will be given or arranged by: The person responsible for implementing organisational and engineering controls, to control vibration at source or reduce exposure, is: The person responsible for monitoring employees' exposure to vibration on site and taking the appropriate actions, is: The person responsible for ensuring that appropriate actions are taken if the level of personal exposure reaches the 'exposure action value' or the 'exposure limit value' is: The person responsible for assessing the need for health surveillance and arranging for it to be carried out, where necessary, is:	
Welfare facilities The company will ensure that adequate and suitable welfare facilities are provided (or made available) for all staff. The person responsible for ensuring that adequate and suitable welfare facilities are provided or made available is: at the company offices: on each site: The person responsible for ensuring that welfare facilities are maintained and kept in a clean and order condition is: at the company offices: on each site: Arrangements for shared welfare facilities will be organised by:	

AREA OF RESPONSIBILITY (continued)	POSITION or NAME
Work at height The company acknowledges that working at height is a major cause of serious injuries and fatalities and will therefore endeavour to ensure that where such work cannot be avoided, it is carried out in a safe manner. The person responsible for deciding whether or not work at height can be avoided is: The person responsible for developing safe methods of working at height is: The person responsible for carrying out the statutory inspections associated with the equipment used for work at height, or arranging for them to be carried out, is: The person responsible for carrying out the inspections of places of work at height, is: The person responsible for ensuring that the employees who will carry out work at height are suitably and properly trained is:	
Young persons in the workplace The company will ensure that the health or safety of young persons is not put at risk due to their inexperience, curiosity, lack of hazard awareness or physical limitations. If one or more young persons are present in the workplace, the person who will ensure that the risk assessment is suitable and sufficient for their presence is: at the company offices: on each site: The person responsible for managing the presence of young persons in the workplace is: at the company offices: on each site:	

Occupational Health and Safety – Construction Site Safety

1.1.3 Safety Policies

1.1.3.1 Key points

1 This Regulatory Document requires every Contractor to have a policy on how health and safety will be managed within the company.

2 The policy must explain how matters of health and safety will be organised within the company and the arrangements that the company has put in place for implementing the policy.

3 The policy should be periodically reviewed to ensure that it is still current, and amended when necessary, with the content and changes made available to all employees.

4 'Off the shelf'' health and safety policies, obtained from third parties are unlikely to contain sufficient company-specific content.

1.1.3.2 Introduction

1 A general statement of health and safety policy is the way in which a company sets out its intention to manage health and safety. It will vary from one company to another. There is no such thing as a 'standard' health and safety policy, as a company's policy must be clearly and directly related to its own operations.

2 It is common for companies to obtain policies via the internet or purchase them from third parties. These are generic, rarely reflect the type of work that is carried out and may lead a company into a false sense of security.

3 The content of the 'organisation' and 'arrangements' sections of the policy is specific to each company. If a generic policy is used it is quite likely that there will be serious omissions in its content and therefore in the way the health and safety is managed. Each company's policy must be based upon its own work activities, management and organisational structure, and staff competencies.

4 The act of compiling a health and safety policy, will focus the Contractor or senior member of staff to whom the Job is delegated on the day-to-day management of health and safety issues.

5 This will help them to become aware of shortcomings, duplications of effort and requirements for certain competences, which can then be rectified.

6 Evidence shows that companies with a well-structured and properly implemented health and safety policy, together with the organisation and arrangements for putting the policy into effect, have much better overall health and safety performance.

7 It is through the ongoing development of a company's health and safety policy that shortcomings can be identified and procedures put in place to help eliminate common causes of accidents and reverse this unenviable record.

8 A comprehensive and accurate health and safety policy is the basis of an effective management system.

9 There is no difference in the standard of protection required during a house extension compared to that for a major construction project; what is likely to differ is the complexity of the management system.

10 Health and safety, and the provision of proper welfare facilities, are crucial to the proper running of any building, construction or civil engineering project. They are not an add-on, an extra or an afterthought, but should be integrated with the normal day-by-day activities of

project planning, tendering and management.

1.1.3.3 Competent contractor

1 Tender Prequalification: Contractors must be able to demonstrate how they effectively manage workers welfare, health and safety. If the company doesn't demonstrate competence in welfare, health and safety issues, they shall not be invited to tender in the future. It is no longer acceptable to simply state that the company has been in the industry for many years without experiencing an accident.

2 Generally, this Regulatory Document (Regulations) requires Contractors to provide for their employees a place of work that is safe and where risks to health are properly controlled. They are also required to ensure that people who are not their employees are not exposed to risks to their safety and health.

3 There should be a carefully planned and systematic approach to health and safety issues, where all risks have been assessed and the appropriate control measures put into place.

4 Irrespective of size, a company must have a general statement of health and safety policy in order to demonstrate to a client or to another contractor that it has committed itself to the principles of health, safety and welfare.

5 **A health and safety policy** is a statement of how a company will, within its overall business activities, manage health, safety and welfare for the benefit of its employees and all other persons who may be affected by the company's operations.

6 These Regulations require that a safety policy should cover three distinct aspects:

(a) **A general statement of the company's health and safety policy** highlighting the intent of the Contractors to have high standards of health and safety in the company, including what they intend to achieve and how they will achieve it.

(b) **The organisation** within the company for the effective maintenance and implementation of the health and safety management system.

(c) **The arrangements** for the effective implementation and ongoing monitoring of the health and safety management system.

1.1.3.4 Section 1 - The statement of policy

1 The statement of policy should demonstrate a clear commitment to health and safety from senior management by declaring how the company intends to manage health, safety and welfare matters in relation to employees and other persons.

2 It should specifically state the name of, and be signed by, the person responsible for health and safety, who should be the managing director or another director to whom responsibility has been delegated. The policy should be reviewed at least every twelve months and a new copy signed, dated and displayed to demonstrate that it is a live document.

3 There should be a declaration that the necessary resources will be provided to ensure the health and safety of all employees.

4 It is usual for the statement of policy to state the importance that the company places upon the health and safety of its employees and what is required of them to achieve the aims of the policy. It should also clearly state that all employees will be informed of the contents of the health and safety policy and that they will be consulted about its application.

5 An example of a General Statement of Health and Safety Policy for a medium-sized Contractor is given in Appendix 1.

1.1.3.5 Section 2 - Organisation

1 This part of the document should:

(a) identify those people within the company who have specific health and safety responsibilities, including the person who has ultimate responsibility for health and safety

(b) outline the methods by which health and safety procedures and other health and safety issues will be communicated

(c) explain the methods by which the effectiveness of the health and safety management system will be measured, reviewed and updated where necessary.

2 The section must clearly state 'who has to do what' in terms of health and safety. For example, it might say that the Contracts Manager will receive information from the Site Manager about accidents, how the results of investigations into those accidents will be managed, and that the Contracts Manager will notify the Administrative Authority when necessary.

3 It should also detail how health and safety information is to be discussed with and brought to the attention of employees, especially those with specific duties highlighted within the document.

4 It is important to remember that once this information is written down, if there is a serious accident, it will be used in court by the Administrative Authority (Administrative Authority). This means people need to be aware of their responsibilities, and have the competence to carry them out.

1.1.3.6 Section 3 - Arrangements

1 This part of the health and safety policy should clearly show the specific arrangements that a company has put in place for managing health and safety during its normal work activities. It should also detail how emergency situations and any other incidents would be handled both from a management and a site perspective.

2 One area for consideration is for companies to indicate how they compile risk assessments and develop safe systems of work. The arrangements in place in relation to compliance with the Construction (Design and Management) CDM Regulations (see Section 1.1.8 of the Regulatory Document) can should also be detailed to demonstrate how compliance with CDM is achieved.

3 The development of the arrangements section is likely to evolve over a period of time and, to an extent, reflect the findings of the company's risk assessments. It should encompass **who** is responsible, as well as **what** they will do and **when** and **how** they will achieve it. This section should:

(a) explain how the need for (health and safety) competencies and training are established and satisfied and, if necessary, what interim measures will be put in place whilst shortcomings exist.

(b) outline the means by which health and safety consultation with the workforce will be achieved including, as necessary, reference to management and safety representatives and safety committees.

(c) explain the procedures for ensuring that sub-contractors have a satisfactory health and safety management system and exhibit safe working practices on site.

(d) list the areas of risk and identify the person who is responsible for managing each risk.

4 Some of the elements that might need to be addressed are:

Site activities

1 Hot works

2 Piling

3 Electricity

4 Gas

5 Noise

6 Vibration

7 Confined spaces

8 Protection of the public

9 Authorisation for the use of plant and equipment

10 Asbestos

11 Lone working

12 Machine guarding

13 Portable hand-tool testing

14 Manual handling

15 Working at heights

16 Roofing

17 Scaffolding

18 Ladders

19 Cradles

20 MEWPs

21 Excavations

22 Hazardous substances

23 Working in occupied premises

24 Any trade-specific items e.g. loading and unloading plant.

Administration procedures

1 Emergency procedures

2 First aid

3 Fire

4 Means of escape

5 Accident reporting

6 Welfare facilities

7 Employee consultation

8 Monitoring procedures for the effectiveness of health and safety procedures.

9 The arrangements section of the policy must demonstrate clearly how the company plans to carry out its work activities and should identify all the specific site risks associated with them. This Regulatory Document (Regulations) requires that Contractors give their employees all the information, instruction, training and supervision that is necessary to ensure their health and safety. However, on small works of short duration or emergency repairs, detailed pre-planning may not be possible. Employees may be sent to a client's premises or a customer's house at very short notice. This type of work may create a number of problems for employees, including the need for a short notice or on-site 'risk assessment', and the arrangements section of the company health and safety policy must cater for this type of eventuality.

10 The arrangements section of the policy should also cover the situation where a manager is unable to visit a possible work site whilst tendering or preparing a quotation for a job, but instead sends an estimator. In this case the estimator must be trained to assess the health and safety risks of the work, and to record the work to be done and the risk control measures necessary.

11 These notes should indicate all possible hazards, working height, obstructions, plant and equipment required. Detailed risk assessments can then be carried out and the associated method statements developed. This will allow for employees to be properly instructed on or informed about the work that they are to do.

12 Managing health and safety on a large site offers certain challenges, but it is normally far easier than dealing with a large number of minor works. This is purely down to the level of supervision and control that can be put in place.

13 There is a certain irony that typically it is the smallest and probably least resourced organisations that have the biggest challenges in terms of developing management systems.

1.1.3.7 Updating of safety policies

1 This Regulatory Document (Regulations) requires Contractors to review and/or revise their safety policies 'as often as may be appropriate'.

2 Changes in the type of work carried out and changes in staff will also give rise to the need for a review of the policy. In addition, the policy should be regularly reviewed to ensure that it stays meaningful and relevant to the company's overall operations.

1.1.3.8 Communication

1 Contractors are legally required to bring their health and safety policy and any subsequent revisions to it, to the notice of all employees. CDM emphasises the need for consultation with the people who carry out the work. Communicating the health and safety policy is a good way of doing this.

2 The only way to find out if the requirements of the policy are realistic and workable is to talk to the people who have to comply with them in the workplace.

1.1.3.9 Construction (Design and Management) CDM

1 Under the CDM regulations (Section 1.1.8), the client is responsible for ensuring all contractors are competent.

2 The Engineer is appointed by the Client to advise and assist the client with his task and shall formally assess the competence of the Contractor, if requested.

3 Part of this assessment process must be a review and critical examination of the contractor's health and safety policy

4 CDM requires that companies bidding for work will compile a 'competence pack' to show how their policies, organisation and arrangements meet the stipulated core criteria for competency demonstration in implementing and managing health and safety.

5 The appendix to this section contains a suggested layout of a health and safety policy for a medium-sized company carrying out small building works. Not all of it will be relevant to some companies and, conversely, it may not contain specific content that some companies require.

6 For most companies, the General Statement of Health and Safety Policy should fit onto one page of A4 paper. The organisation and arrangements sections will be longer depending on the size of the company and the type of work that is carried out. Overall, the final document should be a clear indication to clients, employees and other interested parties such as the Administrative Authority that the company is honestly, openly and totally committed to the proper and effective management of all aspects of health, safety and welfare.

1.1.3.10 The business case

1 In addition to the legal considerations, for example, compliance with this Regulatory Document, there are very strong economic and social drivers for a robust health and safety policy and its proper implementation. The economic argument is that if there are fewer accidents on site and no occupational ill health, more employees will be at work, rather than off sick. This means improved business continuity with a greater prospect of completing projects on time, to budget and to the satisfaction of the client.

2 The social argument is similar. Clients and customers are far more likely to place business with a company who they see is behaving with integrity, and taking proper care of the health, safety and welfare of their employees and others who might be affected by the activities of the company.

1.1.3 Appendix 1

GENERAL STATEMENT OF HEALTH AND SAFETY POLICY

1 The Contractor will comply with his duties in order to provide a safe and healthy working environment for its employees and others affected by its activities. It will take positive action to ensure that other contractors' employees, occupiers of premises, and members of the public do not have their health and safety adversely affected by the work operations of the company. The only acceptable standard of health and safety, and for welfare facilities, will be full and proper compliance with the requirements of legislation. Where it is possible and practical to do so, the company will exceed the minimum requirements of the Qatar Regulatory Document (Regulations).

2 The company will seek to ensure that each company with whom it contracts or subcontracts aspires to a similar high standard of health and safety management.

3 In recognition of the importance that this company places on the engagement and wellbeing of its employees, the company will:

(a) consult, on health and safety matters, with its employees and others who may work under its control to ensure that the arrangements for health and safety management are practical to implement and effective

(b) as far as is reasonably practicable, fully and effectively control the health and safety risks arising from its work activities, in co-operation with employees, other contractors, clients and other relevant parties

(c) ensure that accident and ill health prevention is provided the highest priority, commensurate with business objectives, within all company operations

(d) investigate lapses in health and/or safety performance and implement remedial actions to prevent, so far as is reasonably practicable, their recurrence

(e) provide and ensure that all plant and equipment owned, used or hired by the company is appropriate, safe to use and properly maintained, inspected and tested

(f) ensure that all equipment, materials and substances used by the company are appropriate for their intended use and used, handled and stored safely

(g) ensure that all employees are provided with adequate supervisory training, information and instructions to competently carry out their work activities

(h) ensure that all working places are maintained in a safe and healthy condition

(i) provide adequate resources, including sufficient finance, and access to competent health and safety advice, to achieve the aims of this policy

(j) review and revise this policy statement at regular intervals and also where necessary due to changes in the company activities.

Signed:..... Designation: .....

Date: ..... Review Date: .....

Occupational Health and Safety – Construction Site Safety

1.1.4 Consultation with Employees

1.1.4.1 Key points

1 Employers, in particular Contractors have a duty to consult all their employees on matters of health and safety.

2 Consultation must involve two-way communication - Contractors passing relevant health and safety information to their employees and, conversely, seeking and encouraging the opinions and views of employees where appropriate.

3 Effective Contractors / employee consultation is an essential tool in highlighting potential problem areas, finding solutions and therefore maintaining a healthy and safe place of work.

4 Construction (Design and Management) CDM places a significantly increased emphasis on consultation.

5 The needs of employees, and others, whose understanding of Arabic and/or English is below average must be allowed for during the consultation process.

Note: Section 1, Part 6 of the QCS covers project meetings, Section 1, Part 17 covers project coordination and Section 1, Part 18 covers contractors.

1.1.4.2 Introduction

1 Consulting employees on health and safety matters can be very important in creating and maintaining a safe and healthy construction working environment.

2 By consulting employees, a Contractor should motivate staff and make them aware of health and safety issues.

3 Businesses can become more efficient and reduce the number of accidents and work-related illnesses.

4 Consultation involves Contractors not only giving information to employees, but also listening to and taking account of employees' opinions.

5 When an employee has raised a health and safety issue, it is essential that feedback is given on any decision taken so that the employee can be confident that their suggestions are considered and action taken where appropriate.

6 Where the need for consultation stems from changes to work practices, new work equipment or changes in organisation, etc, it is essential that the Contractor consults with the workforce at a sufficiently early stage to allow them to consider the implications and raise any queries.

7 Furthermore, there may be special considerations when carrying out consultation, such as to establish the needs of particular individuals, for example taking into account the requirements of employees with disabilities.

8 Every Contractor should, as part of their health and safety policy, have documented arrangements in place which outline how effective consultation will be achieved.

9 Consultation cannot take place if there is a barrier to effective communication, such as one of the parties having a limited understanding of Arabic and/or English, either spoken or written. This is becoming an increasing challenge.

10 Those people on site who have a responsibility for consulting with the workforce must identify any such barriers and determine ways in which they may be overcome, such as adapting the means of communication or using interpreters. It is highly unlikely that the use of a Labour

gang master as an interpreter would be judged to be an acceptable means of consultation for the purpose of communicating health and safety information.

1.1.4.3 Duty of the Contractors to consult

1 It is the duty of the Contractor to consult with their employees in good time on health and safety matters. In particular:

(a) the introduction of any measure that will affect the health and safety of employees

(b) the arrangements for appointing or nominating the person(s) to assist the Contractors in complying with this Qatar Regulatory Document (Regulations)

(c) the provision of relevant information as required under this Regulatory Document (Regulations)

(d) any planning or organisation of training required by this Regulatory Document (Regulations)

(e) the health and safety implications of the introduction of new technologies into the Contractors' workplace.

1.1.4.4 Persons to be consulted

1 Contractors may consult directly with all their employees or through 'representatives of employee safety' elected by a group of employees to represent them in health and safety consultation with the Contractors.

2 The Contractors must provide employees with a list of names of representatives of employee safety and the groups they are representing in the workplace.

3 In addition, the Contractors must inform employees of any changes in the form of consultation, such as a move from dealing with representatives to directly consulting with each employee.

4 Employee representatives must also inform the Contractors when they no longer represent a group or groups of employees.

1.1.4.5 Provision of information

1 The Contractors must provide all such information as the employees may require in order for them to participate fully in the consultation procedure. This will either be directly with all employees or with the elected 'representatives of employee safety'.

2 This information may cover what the Contractors proposes to do in relation to health and safety and includes giving the safety representatives an opportunity to express their views in the light of the information provided. The Contractors shall take account of the safety representatives' responses.

3 The issues the Contractors will consult on are:

(a) introduction of measures, at the workplace, which may substantially affect the health and safety of the employees

(b) arrangements for obtaining or appointing the competent person to assist the Contractors to comply with health and safety requirements

(c) information on risks to employees' health and safety and the measures taken to remove or minimise them.

4 Specific areas include:

(a) emergency procedures

(b) first aid provision

(c) display screen equipment

(d) manual handling

(e) noise

(f) asbestos

(g) work at height

(h) vibration management

(i) work equipment

(j) personal protective equipment

(k) CDM

1.1.4.6 Functions of the representative of employee safety

1 They may make representation on hazards, risks, dangerous occurrences, ill health and general health and safety matters, particularly those that the Contractors has a duty on which to consult.

1.1.4.7 Training, time off and the provision of facilities

1 The Contractors must provide the employee representative with appropriate and reasonable training time and reasonable facilities to enable them to perform their functions.

2 This includes the Contractors meeting reasonable costs associated with training and time off to perform the function.

3 The employee is also protected from unfair dismissal or from being otherwise penalised when participating in consultation with Contractors on matters of health and safety in the workplace.

1.1.4.8 Construction (Design and Management) CDM

1 The fundamental requirements under CDM, for competence, co-operation and co-ordination, imply a need for consultation between the various parties working on a project, at all levels. These requirements apply to all projects.

2 On all projects the CDM Regulations require that all contractors ensure that their workforce is properly consulted on matters which could affect their health or safety.

3 CDM uses the term 'worker engagement' rather than 'consultation'.

4 Worker engagement requires contractors and others to actively engage their workforce in the process of identifying and controlling risks as an essential part of accident and incident reduction; 'one-way consultation' should be a thing of the past. For this process to work successfully, the workforce must:

(a) be provided with a means of promptly reporting health, safety or welfare issues to a site-based supervisor or manager

(b) have sufficient knowledge, gained through training where necessary, to appreciate where health, safety and welfare issues exist

(c) have sufficient confidence, based upon their knowledge, to report suspected or known unsafe situations

(d) be provided with feedback to ensure that the issue raised has been investigated and corrective action taken where necessary.

5 In doing this, the Contractor will have to take into account the diversity of the work being carried out by the various contractors and self-employed people who will be on the project at the same time, and the duration of their particular work activity.

6 In that respect, each contractor, sub-contractor and designer has legal duties under CDM to consult amongst themselves regarding construction work and ongoing design, design changes and they all have a legal duty to provide information needed for the future stages of the project (post construction)

1.1.4.9 The Management of Health and Safety at Work

1 These Regulations require Contractors to provide information to employees on the arrangements for dealing with 'serious and imminent danger and danger areas'. The information required is the nature of the hazard and the measures taken to protect the employees from it.

2 In addition, Contractors must provide employees with comprehensible and relevant information relating to:

(a) health and safety risks identified by the risk assessment process

(b) the preventative and protective measures established

(c) emergency procedures

(d) health and safety risks that have been notified to the Contractors.

1.1.4.10 Functions of the safety representative

Consultation with the Contractors Safety Representatives

1 These Regulations require every Contractor to consult with safety representatives with a view to making and maintaining arrangements which will enable them and their employees to co-operate effectively in promoting and developing measures to ensure health and safety at work, and in checking the effectiveness of such measures. To achieve this, safety representatives should encourage co-operation between the Contractors and employees.

2 They should use the established methods of communication within the workplace to keep their members informed of matters affecting their health, safety and welfare at work.

3 Safety representatives will need to establish a close relationship with other appointed safety representatives, including those appointed to develop a common approach to their responsibility for the group or groups they represent.

Investigation and reporting of significant hazards and dangerous occurrences

4 This function is placed on the safety representative on behalf of all employees. In practice this means that the safety representative should bring to the Contractors notice unsatisfactory conditions, working practices or arrangements which come to their attention either during formal inspections or day-to-day observation.

5 Any such reports should normally be in writing. The report does not imply that all other conditions and working practices are safe and healthy, or that the welfare arrangements are satisfactory in all other respects. Making a written report should not preclude a direct oral approach to (for example) the supervisor or shift leaders in situations where speedy remedial action is necessary or where it can lead to an immediate resolution of the problem.

6 It is important that the safety representative should have access to the Contractors competent representative responsible for safety. Responsibilities for safety should be clearly defined.

7 In order to fulfil their functions, safety representatives should keep themselves informed of the particular hazards and risks of the workplace. They should also keep themselves informed of the measures deemed necessary to eliminate or minimise the risks as set out in the health and safety policy of their Contractors, as well as the organisational arrangements for fulfilling that policy.

Investigation of accidents in the workplace

8 Safety representatives should examine the causes of accidents at the workplace and make representations to their Contractors on behalf of all employees they represent using recording and reporting procedures like those outlined under 'Investigation and reporting of significant hazards and dangerous occurrences' above.

Representation on general health and safety matters

9 Again, all employees should be represented and it is advised that similar recording and reporting procedures are used.

Reception of complaints by employees

10 The function of the safety representative in this area is similar to that of a shop steward; so the safety representative should ensure that there is no duplication of effort. It is advisable that recording and reporting procedures as outlined previously are used.

Representation in consultation with the Administrative Authority

11 Where safety representatives have been appointed they will be the appropriate persons to represent employees in any consultations with the Administrative Authority, or other Administrative Authority.

Attendance at meetings of safety committees

12 Safety representatives should attend meetings of safety committees in their capacity as safety representatives in connection with any of their statutory functions.

Inspections of the workplace

13 These may occur in four distinct situations:

(a) on a regular basis

(b) after a substantial change in conditions of work

(c) after a notifiable accident, dangerous occurrence or contraction of a notifiable disease

(d) after remedial action has been taken.

On a regular basis

14 Safety representatives are entitled to inspect the workplace, or part of it, at least every three months. However, there may be special circumstances in which safety representatives and their Contractors may wish to agree a different frequency of inspections for different areas or sectors of the workplace, for example, where there is an especially high risk or in rapidly changing circumstances. In all instances, agreement should be reached with the Contractors on the frequency of inspections.

15 Safety representatives must give Contractors reasonable notice in writing of their intention to carry out an inspection.

16 It is preferable that the Contractors and the safety representative should plan a programme of formal inspections in advance. This will fulfil the conditions as to notice. Variations in this planned programme should be subject to agreement.

17 There are advantages in formal inspections being jointly carried out by the Contractors or a representative and the safety representative, but this should not prevent safety representatives from carrying out independent investigations or having private discussions with employees.

18 The number of safety representatives taking part in any one formal inspection should be agreed by the safety representatives and the Contractors in the light of particular circumstances and the nature of the inspection.

19 At large workplaces it may be impracticable to conduct a formal inspection of the entire workplace at a single session. In these circumstances, arrangements may be agreed for the inspection to be broken down into manageable units. It may also be appropriate, as part of the planned programme, for different groups of safety representatives to carry out inspections in different parts of the workplace. This can be either simultaneously or at different times, but it should be in such a manner as to ensure complete coverage before the next round of formal inspections becomes due.

20 The inspection may take various forms and the type to be carried out will be for the safety representative to agree with the Contractors.

21 Several types of inspection which, on their own or in combination, will over a period of time be appropriate:

(a) *Safety auditing* - systematic checking of every aspect of the company's operations.

(b) *Safety sampling* - systematic sampling of the hazardous activities, processes or areas.

(c) *Safety surveys* - general inspections of all work activities, processes or areas.

(d) *Safety tours* - general inspections of the workplace.

22 Safety representatives should record their findings and notify the Contractors of particulars.

After a substantial change in conditions of work

23 An inspection may take place after a substantial change in the conditions of work, or new and relevant information concerning hazards in the workplace has been published.

After a notifiable accident, dangerous occurrence or contraction of a notifiable disease

24 When there has been a notifiable accident or dangerous occurrence in a workplace or a notifiable disease has been contracted, safety representatives may carry out an inspection of the part of the workplace concerned and, so far as is necessary for the purposes of determining the cause, may inspect any other part of the workplace.

25 Where inspections are carried out, it must be safe for the inspection to be carried out and it must be in the interests of employees in the group or groups which safety representatives are appointed to represent.

26 Where it is reasonably practicable to do so, the Contractors, or their representative, should be notified of the safety representative's intention to carry out such an inspection.

27 It may be necessary, following an accident or dangerous occurrence, for the Contractors to take urgent steps to safeguard against further hazards. If the Contractors do this, they should notify the safety representative of the action taken and accompany this in writing.

28 The inspection must not interfere with any evidence or the testing of any machinery, plant,

equipment or substance which could disturb or destroy the factual evidence before a Workplace Inspector from the appropriate Administrative Authority has had the opportunity to investigate the circumstances of the accident or occurrence.

After remedial action has been taken

29 Where remedial action has been taken by the Contractors and the safety representative has been notified in writing, the representative should be given the opportunity to make any necessary re-inspection in order to satisfy themselves that the matter(s) notified have received appropriate attention. They should also be given the opportunity to record their views. It is advisable that a formal procedure is used.

30 Any remedial actions that are subsequently taken should be publicised throughout the workplace via the normal channels of communication and should be brought to the specific attention of the safety committee.

Inspection of documents

31 Safety representatives are entitled to inspect and take copies of any documents which the Contractors is required to keep, by virtue of any statutory provision, relevant to the workplace or to the employees represented.

32 The safety representatives must give a Contractor reasonable notice of their intention to inspect and take copies of documents.

33 In exercising this right, safety representatives should have regard to the circumstances and allow the Contractors a reasonable period of time. However, the Contractors must ensure access to the documents.

34 The only exception is documents consisting of, or relating to, any health record of an identifiable individual, unless the individual concerned has given their approval.

1.1.4.11 Provision of facilities

1 In addition to the facilities which Contractors must provide for inspections and consultations, the Contractors must provide whatever assistance may be reasonable in the circumstances.

2 **Note:** Throughout these Regulations, reference is made to the facilities that the Contractors have to provide to the safety representative. All parties should clearly understand that the facilities should be reasonable, allowing representatives to effectively fulfil their functions. The necessary facilities should be discussed and agreed on by all concerned.

1.1.4.12 Establishment of safety committees

1 Consultation about forming a safety committee should cover membership, function, procedures and the meeting programme of the committee, and take into account start and finish dates of the contractors who will work on the project.

2 Once the committee has been established, the Contractors must post a notice stating the composition and the workplace to be covered by its activities.

1.1.4.13 Objectives and functions

1 The committee should be concerned with all relevant aspects of health, safety and welfare in the workplace.

2 It should draw up objectives and agreed terms of reference. These might include:

(a) study of accidents, dangerous occurrences, disease statistics and trends

(b) examination of safety audits and other inspection reports

(c) consideration of reports and factual information from the enforcing authorities

(d) reports which safety representatives may wish to submit

(e) development of safety procedures and safe systems of work

(f) effectiveness of the safety content of employee training

(g) adequacy of safety and health communication and publicity in the workplace

(h) the provision of a link with the appropriate enforcing authorities' inspectors

(i) the appropriate input into risk assessments, etc.

1.1.4.14 Membership

1 The number of management representatives should not exceed the number of employee representatives. Management representatives should be drawn from all levels of management and supervision, bearing in mind the needs of all contractors. In some instances, safety experts may be co-opted.

1.1.4.15 Conduct

1 The frequency of meetings will depend on the nature of the workplace, and prior consultation should take place.

2 It is advisable that meeting programmes should be arranged with agendas and minutes, and that these should be published and freely available.

3 It is particularly important that the standing of the committee in relation to management representatives and safety representatives is clearly defined and that procedures for reaching decisions are understood.

1.1.4.16 Employment protection

1 A safety representative or other employee cannot be dismissed for drawing the attention of a Contractor to genuine health and safety concerns.

Construction Site Safety
1.1.4 Appendix 1

Examples of information sought from Contractors

1 Information sought from Contractors on health and safety matters might be such as is detailed under the following headings. The list should not be taken as exhaustive.

General safety

2 Information relating to safety, health and welfare, such as:

(a) who the Contractors makes responsible for safety at the office, depot or site; and where that person can be contacted

(b) the health and safety policy of the Contractors and the organisation, and the arrangements for implementing the policy

(c) a list of members of any health and safety committees and a list of other safety representatives within the company or on site

(d) the specific responsibilities of individual managers and supervisors for health and safety in the company and on site.

(e) Details of existing procedures for:

(f) the health, safety and welfare of the workforce and the established procedures for consultation and negotiation

(g) the issue, maintenance and replacement of any personal protective clothing and equipment

(h) obtaining first aid treatment

(i) statutory inspections of the workplace, regular inspections and safety drills

(j) warning notices and signs to be posted around the workplace and any signals which need to be made during the working day

(k) accident reporting and investigation

(l) dealing with unsafe acts and conditions at the workplace, including working with hazardous materials.

Training of young people

3 Information relating to the health, safety, welfare and training of young people, such as:

(a) induction training, the general training methods to be implemented and the facilities available for that training and how they are to be used

(b) the people responsible for training and the safety content of on- and off-the-job training

(c) the provision of specific safety training for certain tasks and activities undertaken within the workplace

(d) who sets and monitors the required safety standards in training

(e) the records to be kept to indicate what training has been received; where those records are kept and by whom.

Training of adult workers

4 Details of training related to the health, safety and welfare of adult workers, such as:

(a) the type of training available both on- and off-the-job and the duration of that training

(b) the training available and given to skilled, semi-skilled and unskilled people

(c) the extent to which retraining includes health and safety instruction

(d) the methods of training which are currently being used

(e) the arrangements for ensuring the effectiveness of the training given to workers whose first language is Arabic and/or English, for whatever reason, have a lower than average level of understanding of Arabic and/or English.

Training managers and specialists

5 Details of training related to health, safety and welfare of training managers and specialists, which is given when:

(a) any new work methods, equipment or materials are introduced into the company's operations

(b) any new standards or legislation are introduced which affect the company's operations

(c) the existing knowledge and skills of the workforce are inadequate to meet the requirements of the job.

The company's organisation and activities

6 General information on health, safety and welfare related to the company's organisation and activities, such as:

(a) the organisation, structure and specific site organisation

(b) the numbers of personnel employed for each of the categories of skills employed and of the specialists available for consultation

(c) the methods of personnel recruitment, selection and placement policy

(d) any significant changes in the company's activity, such as any proposed or anticipated expansion, or the end of contracts.

Access to documents

7 Contractors need to maintain and provide access to the following health and safety information:

(a) first aid statistics, along with records of absence

(b) details of both manufacturers' and suppliers' technical data

(c) reports, Improvement and Prohibition Notices served by the Administrative Authority Workplace Inspectors

(d) minutes of meetings, reports and any recommendations made by Safety Committees; reports of safety officers, etc.

Occupational Health and Safety – Construction Site Safety

1.1.5 Health & Safety Training and Induction Training

1.1.5.1 Key Points

1 Construction and building sites can be dangerous places to work, even for experienced workers.

2 Everyone arriving new on site, whether new to the industry, experienced or even a temporary visitor, should be given an induction to the site.

3 Accident statistics show that the majority of accidents happen to people during their first few days on site.

4 The threats to health and safety will vary from site to site and even on the same site as work progresses and the hazards change.

5 An effective induction process is an essential part of on-site health and safety management.

6 The content of the induction presentation must:

(a) be understandable, comprehensive and relevant to the hazards present on site at that time;

(b) anticipate and inform inductees of forthcoming changes to the hazards on site;

(c) allow for the effective induction of inductees who do not have English as their first language or may otherwise have difficulty in understanding what is being said.

1.1.5.2 Introduction

1 It is a requirement of these Regulations that employees are provided with health and safety training whenever they are exposed to new or increased risks. When employees first arrive in the company or at a new site, this training takes the form of an 'induction'.

2 This Regulatory Document (Regulations) requires that Contractors provide their employees with sufficient information, instruction, training and supervision as is necessary for their health and safety.

3 Given that every accident occurring to an employee can be seen as an eventual financial cost to the Contractors, then anything that can be done to reduce accidents is of direct financial benefit to the Contractors. The costs of giving proper and effective health and safety induction training are relatively minor when viewed against the cost benefits that can accrue from accident avoidance and prevention. This also applies to the prevention of long-term ill health and the avoidance of dangerous occurrences.

4 These Regulations are more specific in that they require the following of the Contractors.

(a) Every Contractor shall, in entrusting tasks to employees, take into account their capabilities as regards health and safety.

(b) Every Contractor shall ensure that employees are provided with adequate health and safety training:

(i) on their being recruited into the Contractors undertaking; and

(ii) on their being exposed to new or increased risks because of:

- their being transferred or given a change of responsibilities within the Contractors undertaking
- the introduction of new work equipment or a change regarding work equipment already in use within the Contractors undertaking

- the introduction of new technology into the Contractors undertaking
- the introduction of a new system of work or a change regarding a system of work already in use within the Contractors undertaking.

1.1.5.3 Types of induction

1 Mention of the word 'induction' would cause many people to think of a person arriving on site or into the company totally new.

2 Whilst this is the case for some people, there will be a significant number of people who do not fall into this category. In wider terms inductions may be:

(a) young people joining the industry for the first time. This will generally be persons joining a company as trainees or apprentices

(b) persons arriving at a new site even though they have been in the industry for some time

(c) people transferring between companies within the industry

(d) persons who have been promoted, for example, from tradesperson to chargehand

(i) a change of placement for a worker or a return to the workplace following an extended absence

(e) an observation of behavior or task performance—for example, supervision of a worker identifies a safe work instruction is not being followed. The worker may be required to undertake retraining

3 It must be appreciated that different types of inductee will probably require different levels or styles of induction training because of their varying levels of knowledge, experience and competence within the industry.

1.1.5.4 Construction (Design and Management) CDM

1 These Regulations specifically require that:

(a) contractors provide all of their workers with the necessary information and training which is necessary for their health and safety, including a suitable site induction, where it is not provided by a Contractor

(b) the Contractor takes all reasonable steps to ensure that every worker is provided with a suitable site induction.

2 The above requirement on contractors to provide site inductions means that inductions must be carried out for all projects

3 The requirements of other Regulations which in themselves indicate a need for competence in certain work situations, when viewed against the type of work to be carried out, might indicate additional topics which need to be covered during site induction.

1.1.5.5 Contractors responsibilities

1 Refer to this section 1.1.2.7

1.1.5.6 Employee responsibilities

1 Refer to this section 1.1.2.7.

1.1.5.7 Induction training

1 It will be for the Contractors to decide when and where the training takes place. However, the sooner the induction training takes place the more opportunity there is to have a significant influence on the people being inducted. It is important that the induction training is seen as a formal company procedure, which the company provides for the benefit of the inductee, so that the Contractors can be seen to be meeting both the letter and the spirit of the law. If it is seen as 'something that is just necessary, we have to do it anyway' then it will fail to have the desired long-term effects.

2 The style and content of the presentation will vary between company and site. However, the person giving the presentation needs to have both the necessary skills and knowledge, together with the ability or 'presence' to deliver the programme effectively and in a meaningful manner.

Induction difficulties

3 It is essential that the health and safety messages put across during site induction are fully understood. Possible barriers to learning will depend largely upon the training methods used. For example, reliance on written training materials will disadvantage those with dyslexia or other reading difficulties. Similarly, amongst the increasing number of workers who do not speak Arabic as their first language, some may find induction training of limited value unless thought is given to how it is delivered.

4 It is up to the person organising the training to establish the limitations of those undertaking induction, remembering that there may be a degree of embarrassment and, therefore, a reluctance to admit limitations.

5 To successfully induct those whose first language is not Arabic or English, but who have some understanding, it will be necessary to modify the presentation in style, speed of delivery and the aids used, depending upon the level of Arabic. Induction aids may need to be more visual, with less reliance upon the written word. Where there are operatives who do not speak Arabic or English at all, it is likely that specialist help, such as interpreters, will be required. There may also be scope for training someone on the site who speaks both languages to carry out specific induction sessions for specific groups.

Induction content

6 Different companies will have different issues to include in the induction training. The requirements for on-site training will vary as work on the site progresses. In the early days there may be excavations, exposed reinforcing bars and other problems at ground level.

7 As the site and above-ground works progress, the hazards will change and it will be necessary for the emphasis in the health and safety training to change. As the site develops, temporary or permanent traffic routes may be introduced, or the circulation of traffic on site may need to change, for example, due to the repositioning of a crane or the installation of services. All these issues should be reflected in the induction training that will be provided for people arriving on site or as the project progresses. It is quite possible, or even likely, that the induction session delivered on day one of the project will not be valid after three months.

8 Part of the induction process must be to find out what the audience already knows, identify key areas that must be covered and use plain language, illustrating with diagrams, drawings and pictures to ensure that inductees can easily take in the information.

9 There will undoubtedly be other issues that are specific to a company or site and these will need to be considered and developed by the company concerned.

10 Explain that at the end of the induction session, all inductees will be required to add their name

and signature to an attendance sheet signifying that they have understood what they have been told.

11 The program must incorporate maintenance of all Health and Safety training records including assessment records; this shall be the preferred option for managing Health and Safety training records.

12 Company Safety Policy

1.1.5.8 Site and company rules

1 Obviously, users will amend the content in order to reflect the philosophy of their company, site or organisation regarding health, safety and welfare provisions. There may be items covered which you feel are inappropriate and these should be omitted.

2 Conversely, some additional items not covered may be of particular importance to your company, site or organisation and these should be included.

Access

3 Explain the rules regarding access to, and egress from, the workplace. Are there any one-way systems? Are there any prohibited areas? Are there any special rules or conditions applying to the site or workplace?

Accident reporting

4 The participants should be in no doubt of the requirements for reporting accidents. Explain when, where and to whom accidents must be reported and, in general, how they will be investigated. Your procedures may go beyond those required by legislation as a company policy decision.

Asbestos

5 If asbestos or asbestos-containing materials are potentially present, it is essential to provide elementary asbestos awareness training, including details of any prohibited areas, to reflect the site conditions.

6 You should have a company policy for dealing with any material suspected of being asbestos and employees should be informed of this policy.

7 This may be along the lines of:

> 'If you find any material that is off-white or crumbly, or any fibrous material that looks like dirty cotton wool it may be asbestos or contain asbestos, so leave it alone and if practical keep other people out of the area. Contact your supervisor and tell them what you have found.'

Assembly points

8 See also Emergency evacuation. Explain where the assembly points are for site evacuation in the event of an emergency.

Boundaries

9 Explain the boundaries of the site if there is no perimeter fence. Include the prevention of trespass.

Buried services

10 Explain site or company procedures that should be followed if gas, electricity, telecommunications, fibre optics, water, sewerage and other buried services are discovered on site.

Competence

11 You may need to advise employees and others of the levels of competence required for operating certain types of plant or carrying out particular pieces of work. CDM in particular places a legal duty on anyone who arranges for or instructs any worker to carry out construction work, to ensure that they are competent to do so.

Confidential issues

12 Explain the provision for 'whistle blowing'. How can employees raise confidential (including medical) issues if the need arises?

Confined spaces

13 Explain the rules that apply on site. Many employees will fail to recognise that a confined space can be above ground, or be as innocuous as a sub-basement boiler room. Unfortunately, confined spaces have been responsible for a number of deaths in the industry, all of which could have been avoided by compliance with proper health and safety procedures.

Consultation with employees

14 Contractors have a duty to consult the workforce on matters of health and safety, you must explain how such (two-way) consultation is achieved:

(a) what is the mechanism for workers to bring any health and safety concerns they have to the attention of site management?

(b) If there is a health and safety committee on site?

(c) If so, who are the members?

15 If there is a suggestion box or scheme, explain how employees can put forward ideas for improvements in health, safety and welfare, waste minimisation and so on, on a day-by-day basis.

Contamination

16 The raised awareness of environmental matters makes the prevention of ground contamination of growing importance. Explain how employees can prevent spillage of diesel fuel, paint, oil, thinners, cement, concrete or any other substance that could lead to contamination.

COSHH (Control of Substances Hazardous to Health)

17 Explain the on-site procedures relating to hazardous substances. Are there any substances that are additional to the usual cement, oils, paints, etc.?

Dangerous occurrences

18 Explain the policy in relation to the reporting of dangerous occurrences. It is thought that many go unreported as employees regard them as 'an accident where nobody was injured'.

Dermatitis

19 Explain that contact dermatitis can be caused by some relatively common substances such as diesel and mould release oil, paints, thinners and cement. Gloves should be worn on appropriate occasions, and barrier creams should be used properly.

20 These occasions should have been identified by the Contractors risk assessments.

Discipline

21 Explain the company policy regarding breaches of this Regulatory Document (Regulations), site or company rules.

Dress code

22 Explain the effects of sun exposure and the importance of preventing skin cancer. Explain company or site rules on whether shorts or sleeveless vests are permissible on site.

Drugs

23 Explain the rules about arriving on site or being on site under the influence of any non-prescribed controlled drugs, or taking these during the hours of employment. It may be that employees will be asked to leave the site.

24 The issue of prescribed drugs should also be covered as some of these can have side effects such as drowsiness. If the user is authorised to operate plant or drive vehicles, this needs to be addressed and resolved with the supervisor or management.

Edge protection

25 What standard is used? What is the safe system of work for persons working on or near open or leading edges?

Electricity

26 What are the site or company rules concerning:

(a) temporary or permanent repairs by competent persons on site?

(b) use of 240v equipment?

(c) use of RCD or similar circuit breakers?

(d) use of transformers and 110v equipment?

27 Are there any other general rules regarding working with electricity?

Emergency evacuation

28 Explain site or company procedures. What is the siren or alarm? Where are the emergency evacuation assembly points?

Emergency procedure

29 Explain the procedures to be followed in the event of an emergency other than fire. This may be civil disturbance, a bomb scare, structural collapse or other eventuality.

Environment

30 Environmental pollution can include the air, as well as the ground or water. Explain any specific issues of environmental protection and control concerning the company or site. It is perhaps worth noting that dust, as well as smoke and fumes, can be considered an environmental pollutant.

Escape routes

31 Explain the recognised escape routes on site and from buildings in the event of a fire or emergency.

32 Explain that access and egress routes must be - well-defined and kept clear. How are they marked? How will they be lit when it is dark? How will changes to the escape routes be notified as construction progresses?

Excavations

33 Explain the policy regarding:

(a) excavation support

(b) proper entry and exit from an excavation

(c) edge protection around an excavation.

Eye protection

34 Explain if there are any specific eye protection problems, or rules applicable to the site or any particular work that is taking place. See also **Personal protective equipment.**

Fall-arrest

35 You may wish to comment on the use of safety nets, safety decking, air bags and other similar systems.

Fall prevention

36 Explain the hierarchy of control measures that are to be used on site to prevent persons from falling or to catch them safely if they do fall. This will obviously vary depending on the type of site and work undertaken.

Fire

37 In the induction session, you should at least cover the following:

(a) fire precautions, fire prevention and good housekeeping

(b) who will be responsible for summoning the fire brigade

(c) location of:

i. fire points

ii. fire extinguishers

iii. hose reels

(d) training and competence in the use of fire fighting equipment

(e) testing of the fire alarm

(f) fire drills and practice evacuations

(g) evacuation in the event of an on-site emergency

(h) policy for 'hot works', including permits.

38 Explain the company or site policy regarding the burning of rubbish or 'bonfires'. On many sites, this is prohibited due to the danger of fire spreading and the environmental pollution caused by fires.

First aid

39 If there is to be an on-site first-aid facility that can be used by all contractors, clearly explain the arrangements.

(a) Where is the first-aid kit?

(b) Who are the first aiders, and how can they be contacted or identified?

(c) Who are the appointed persons?

(d) In the event of an accident requiring more than first aid, who will summon the ambulance or emergency services?

Flammable liquids

40 If flammable liquids (such as paint thinners, solvents, spirit-based paints and others) are kept and used on site, explain the rules for:

(a) storage

(b) withdrawal from storage

(c) use

(d) return to storage.

Health and safety committee

41 See also Consultation with employees. If there is a site health and safety committee (and this may also be reflected in earlier comments for CDM or Consultation with employees), explain the terms of reference for:

(a) the committee and membership

(b) how often the committee meets

(c) agenda items

(d) how the outcomes of meetings are made known to employees on site (publication of minutes).

Hearing protection zones

42 Are there any mandatory protection zones on site? How are they marked? Explain the supply and issue of hearing protectors and when they should be worn.

Hazards

43 List the hazards found on site and how the employee will protect themselves against them.

High visibility clothing

44 Explain the site or company rules for this clothing to be worn and clearly define the appropriate locations. Also clearly define the standard for high visibility clothing.

Hoists

45 For passenger hoists:

(a) who is the competent person to operate the hoist?

(b) if any person can operate it, do they need training prior to being authorised as competent?

(c) if the controls are regarded as so simple that the hoist may almost be regarded as a public lift, is there any danger of controls being overridden?

(d) what is the maximum number of persons permitted in the hoist?

(e) which rules apply regarding goods carried in the hoist?

46 For goods hoists:

(a) who is the authorised competent person to drive it?

(b) can any other persons be authorised?

(c) what are the rules for closing the gates?

(d) what is the safe working load?

(e) explain that passengers cannot be carried

Ladders/stepladders

47 Explain the company standards for:

(a) securing or tying ladders/stepladders

(b) use of ladders/stepladders for light work of short duration or gaining access

(c) any restrictions imposed on the use of ladders and stepladders

(d) movement of ladders around the site.

Lasers

48 If lasers are to be used on site, explain what class of laser is to be used and what, if any, hazards could be caused. Levelling lasers (used, for example, by suspended ceiling fixers) are not normally regarded as hazardous as long as appropriate health and safety rules are followed.

Site Rules

49 Explain that different projects and clients will have different rules and that employees should understand the need for each rule and how it will be enforced.

Lifting equipment

50 Explain the following:

(a) who has the authority to use lifting equipment of varying sizes and types

(b) the duties of slingers and signallers

(c) testing and inspection of equipment

(d) current colour coding, if such a system is used.

Lighting

51 Explain the site or company rules for provision of work lighting and emergency lighting. Include:

(a) the placing of luminaires

(b) extra lighting during winter months or for work outside normal hours.

Liquefied petroleum gas

52 Explain the rules for:

(a) use and storage

(b) separation of full and empty cylinders

(c) separation from oxygen and acetylene, as appropriate

(d) use of hose check valves and flashback arresters

(e) use of fire extinguishers.

Manual handling

53 Explain site or company rules regarding:

(a) the avoidance of manual handling wherever possible

(b) the use of mechanical devices to aid manual handling

(c) company policy or procedures regarding dense or heavyweight concrete blocks

(d) the importance of good manual handling techniques including team lifting.

Medication

54 Some prescribed medicines, and some medicines which can be purchased from a Pharmacy without a prescription for problems such as hay fever, can cause drowsiness or other side effects.

55 Explain that anyone who is concerned that any medicines prescribed may affect their health and safety performance should discuss the matter with their supervisor.

Method statements

56 Explain the importance of supervisors discussing with employees the method statement to be used for particular tasks, and the benefits to be gained from employee input into method statements.

Mobile elevating work platforms (MEWPs)

57 Explain who has the competence to operate or use MEWPs. Give the evidence required to prove competence and training. Where can MEWPs be used? Where they are not allowed? Explain the use of safety harnesses when working from platforms.

Near-miss incidents

58 Explain the importance of reporting all incidents that are 'near misses'. These can then be investigated and the appropriate remedial measures put into place so that the next 'near miss' does not become an accident.

Needles and syringes

59 Because of the secretive nature of illegal drug use, these items may be hidden away, which can increase the danger to those finding them. Employees should be warned to be very vigilant, particularly regarding the discovery of used hypodermic syringes, razor blades (needles and needlestick injury's).

60 Explain the action to be taken on:

(a) finding discarded needles

(b) receiving a needlestick injury.

61 It should be noted that most gloves in common use on site do not offer very much protection against a needlestick injury.

Noise

62 See also **Hearing protection zones.** Explain the site or company rules concerning the use of equipment that produces excessive noise. Explain the use of hearing protection and noise control zones.

Occupational health

63 Stress the importance for employees to report to supervisors any cases of ill health, as it may be potentially work-related. This is particularly important if employees are working where there may be rats, or if the area has been used for illegal drug taking and the related paraphernalia may be found. In the case of refurbishment and renovation works, there may be residual materials from previous occupants likely to cause ill health.

Overhead electricity cables

64 Explain the site or company rules on:

(a) location

(b) marking

(c) allowable proximity for vehicles

(d) working nearby

(e) precautions.

Permits to work

65 Explain company or site procedures regarding issuing, working with and the cancellation of permits to work. Where 'lock off systems are used, explain the rules regarding padlock keys.

Personal protective equipment

66 Explain the site or company rules regarding:

(a) safety helmets

(b) protective footwear

(c) high visibility clothing

(d) eye protection

(e) respiratory protection

(f) any other issues.

67 Remind the inductees that PPE in general, and respiratory protective equipment (RPE) in particular, should only be used as a means of last resort when all other control measures have been investigated and found to be impracticable. The need for PPE (apart from helmet, boots and high visibility clothing) should be covered in the risk assessment and method statement.

Plant and equipment

68 Explain the site rules regarding:

(a) the authority to operate plant and

(b) equipment, including the requirement for competence cards, where necessary

(c) any type of plant/equipment that is prohibited, for example mains-powered hand tools

(d) the need for noise control where appropriate

(e) the requirement for permits to work where appropriate.

Powers of Administrative Authority Workplace Inspectors

69 You may want to explain, in general terms, the powers that Inspectors have when they come on site and the requirement for employees to co-operate with them.

Reporting defects

70 Explain the importance of reporting all defects in plant and equipment, scaffolding, supports for excavations, and so on. Early reporting will bring about swift remedial measures and help to prevent accidents.

71 The possible consequences of not reporting defects may result in an accident or disciplinary procedures.

Restricted or prohibited areas

72 Explain whether there are any areas on site that are restricted to all people, or a specific class of people. Include what identifies a restricted area. Typical examples are areas where demolition, impact cleaning, water jetting, or asbestos removals are taking place.

Risk assessments

73 Explain the significant findings of risk assessments, as they will affect staff on site as a whole, or those working on a particular activity. It may be useful to explain the risk assessment process and the health and safety benefits that can be gained by employees. See also **Method statements.**

Safe systems of work

74 The crucial need arising out of risk assessments and method statements is for safe systems of work. Explain that site rules require employees to work in accordance with any safe systems of work that have been developed by the Contractors.

75 Explain also the benefits of working to a safe system of work and the potential for accidents and disciplinary action if it is not followed properly.

Safety harnesses

76 Explain the company or site requirements for wearing and using safety harnesses and lanyards. See also **Fall-arrest**.

Safety policy

77 Explain any relevant areas of the company's health and safety policy, together with the organisation and arrangements for the implementation of the policy. If relevant, explain where a copy of the policy is displayed on site.

Safety signs and notices

78 Remind the audience that all employees must comply with all safety signs and notices at all times. Explain the whereabouts of any site notice board, and how changes and modifications to site rules will be made known to the workforce.

Scaffolding (including mobile scaffolds)

79 Explain the site rules regarding:

(a) who is allowed to erect, alter or dismantle tube and fitting or system-built scaffolds

(b) the implications (safety and disciplinary) of unauthorised dismantling or alteration of scaffolds

(c) assessing competency to erect proprietary aluminium or tower scaffolds

(d) the safe use of mobile tower scaffolds

(e) safe access/egress to and from scaffolds.

80 Explain any other company or site-specific rules about the use of scaffolding as either a working place, or as access to the working place.

Site layout

81 Explain whether any specific rules apply to pedestrian and traffic movement. This will depend on the size and complexity of the site. You may also include where contractors may lay down materials and which areas they may use for the prefabrication of components.

Site security

82 Security is very much allied to health and safety in that a breach of security can lead to trespassers on site and possible exposure to a risk of injury. Open a discussion if you have any particular company or on-site rules concerning security. Also consider the issue of health and safety awareness of site security staff, whether they are employees or a subcontracted security company.

Skin protection

83 It may be appropriate to discuss the need for skin protection, both in terms of gloves and barrier creams. If barrier creams are used, where are they dispensed? Also explain that the types of gloves used must be the most suitable for the levels of protection needed.

84 If it is likely to be a significant hazard, you should also include details of the risk of skin cancer associated with excess exposure to the sun.

Smoking

85 Explain the policy on smoking in the workplace and the canteen, clearly identifying those areas where smoking is not allowed. Include details of the measures taken to protect non-smokers from the discomfort caused by tobacco smoke.

Stop Work Authority

86 Whenever there is a concern as to safety, the employee has the authority to stop and refuse work until a qualified person has determined that safety has been assured.

Tidiness (housekeeping)

87 Explain the importance of maintaining a tidy site in order to eliminate many of the slip, trip and fall hazards. Include:

(a) rubbish skips

(b) separation of waste

(c) who is responsible for organising the delivery of and removal of skips

(d) good housekeeping

(e) sweeping up - general tidiness.

Toilets

88 See also **Welfare facilities.** Explain the site or company rules regarding cleanliness, abuse of facilities and graffiti, and how such behaviour will be dealt with. Include the reporting of defects.

Traffic routes

89 These are dependent on the size and complexity of the site.

90 Explain:

(a) one-way systems

(b) the need to minimise or avoid reversing

(c) signalers (formerly banksmen)

(d) segregation of pedestrians from vehicles and machines - pedestrian walkways.

Training

91 What training will be given to persons on site? Explain the need for all contractors to ensure that persons working for them on site have been trained and are competent to carry out the work they are required to do.

Types of injury

92 Due to the nature of the project or the ground, some sites will have specific issues to deal with and there may be the potential for a particular type of injury. Take the opportunity to explain this in order to prevent injuries occurring. For instance, working at height raises specific issues and working at height over or alongside water may introduce additional hazards.

Vehicles

93 Explain the site rules for the presence and operation of vehicles on site. Include:

(a) the parking of private vehicles

(b) delivery vehicles, for example,

(c) constraints on the access to off-loading bays

(d) keeping clear of site (working) vehicles

(e) who is allowed to operate plant on site?

(f) providing proof of competence to operate plant

(g) the security of vehicle keys when not in use

(h) security measures to make vehicles unavailable to trespassers and children during non-working hours

(i) traffic routes and speed limits

(j) the need for signallers and slingers.

Vibration

94 Many people are still unaware of the problems that can be caused by high-speed rotary and percussive equipment. Explain the potential severity of vibration white finger and the company or site policy regarding:

(a) the use of vibrating equipment

(b) the limitations of personal protective equipment

(c) design and selection of tools and equipment

(d) rest breaks and the rotation of work

(e) the symptoms of vibration white finger

(f) the need for employees to seek medical advice if they have any symptoms.

Waste disposal

95 Describe the location of skips and other waste containers. Explain the segregation of waste. Who is responsible for the removal of waste from the workplace? Explain the company or site policy if contractors do not clear away their own waste.

Waste minimisation

96 Explain that this is a financial issue as well as an environmental matter. It is also closely linked with site tidiness, pollution control, housekeeping and accident prevention. Effective waste minimisation is also an issue within sustainable construction and there are company and national benefits to be gained. There is more likelihood of a project being completed on time and to budget if waste is minimised.

Welfare facilities

97 Explain:

(a) the location of the welfare facilities

(b) if appropriate, the opening hours of site canteens

(c) responsibilities for the cleaning and maintenance of the facilities

(d) the provision of barrier creams and rehydrating lotions

(e) the need for good personal hygiene

(f) the company policy regarding damage and graffiti

(g) the location of facilities for men

(h) the arrangements (if any) made for smokers.

Working at height

98 This is allied to fall prevention, safe systems of work and PPE. Explain the company or site rules for:

(a) working at height, including safe systems of work

(b) competence of employees

(c) protection of those below, including the public

(d) the prevention of materials falling - use of containment and debris nets.

Working near, on or over water

99 Explain the site or company rules for working near, on or over water, including:

(a) the wearing of life jackets or life preservers or flotation devices

(b) prevention of falls into water

(c) safety harnesses

(d) the rescue of anyone who has fallen into water

(e) safety lines and safety boats

(f) lookouts

(g) alarms.

Conclusion

100 Records shall be kept showing which workers have attended site induction, details of the training they have received and the date it was carried out.

101 Appendix 1 of this module is an example of an attendance list that can be copied and used for record purposes on induction training. It may also be copied into a computer and electronic records maintained.

102 Appendix 2 is a checklist that can be:

(a) 'ticked' as appropriate and attached to the induction attendance list as a record of which topics were covered

(b) used by the trainer to ensure that the important basic facts are included in an induction training talk.

1.1.5.9 Provision of Training Resources

1 Contractor accountability and functional areas shall take into account Health and Safety training needs when allocating budget and other resources for training and development activities

2 The resources and delivery methods may vary but should take into account such things as

(a) The learning needs of the worker

(b) Timeframes and impacts on the workplace

(c) Qualifications and competency of the trainer or external training provider (where one is used).

(d) The nature of the training to be provided and suitability of venue and training aids

3 Training and development programs may range from formal course work with competency

assessment to less formal instruction and information sessions such as team meetings/ tool box talks/ Daily Safety Task Instructions

4 Training delivery mediums may include such things as videos, face-to-face, e-learning, mentor programs.

5 Where Health and Safety training is being to be provided face-to-face, it should be delivered by a person with knowledge and / or skills that are relevant to the Health and Safety element being taught.

Implement work Health and Safety training and apply learnings

1 The aim of successful implementation of the Health and Safety training is to ensure that workers are made aware of workplace risks and understand the measures implemented to control them, how to safely perform their tasks and duties and the actions to take in the event of an incident

2 Where it has been identified the nature of the hazard or risk requires a worker achieve a certain level of competency in order to ensure protection of the worker and others, ensure the assessment is relevant and that competency is achieved. Assessments may be theoretical or practical (for example, a worker may practically demonstrate the ability to erect a scaffold)

3 Workers shall undertake all necessary refresher or re-certification training as directed unless the requirements are no longer applicable to the nature of the work being undertaken. That normally will be not less than 6 months and not more than 1 year (unless it's stated by the training provider).

Monitor and review processes

1 Following the completion of training, the worker should be supervised to ensure application of learnings and safe work procedures.

2 Where any deficiencies are identified, feedback shall be provided to the worker and further training or instruction should be provided.

3 Refresher training or re-certification requirements should be monitored and workers provided notification as applicable.

4 All Health and Safety training and development programs and requirements shall be reviewed as follows:

(a) If prompted by a legislative change

(b) When there are changes in work practices

(c) At intervals determined as part of the Contractor safety management system monitoring and review schedule

Mandatory training requirements

1 Mandatory training shall apply to all workers.

2 Contractors shall be required to undertake the contractor safety induction program, prior to commence any activity on-site. The contractor shall be provided any additional mandatory training.

3 Worker to present to their supervisor at subsequent placements (see Appendix 3 for a sample training record)

Note: Fire and evacuation training and workplace induction programs are site specific and must be provided to workers for each site they work on

4 Specified training must be provided where the Contractor Health and Safety training needs analysis identifies particular relevant activities are being carried out; for example: Manhole treatment. Mandatory training should be:

(a) Training required as a control for a workplace risk (e.g. confined space entry third party training) – Refer to attachment 3 for the external training requirements.

(b) Specific task-based training for prescribed high risk work (e.g. hazardous substances, or scaffolding).

5 Training required to fulfil specific workplace roles (e.g. for the provision of first aid).

Construction workers for whom Arabic is not their first language

1 shall, in entrusting tasks to his employees, take into account their capabilities as Contractors regards health and safety.

2 Steps must be taken to ensure that effective two-way communication is established so that they can work safely and without risk to their health or to the health and safety of any other person who might be affected by their action or omissions.

3 Ultimately, if a contractor decides to engage workers who cannot speak and/or understand Arabic the situation will have to be managed. This could be achieved by the employment of a bilingual supervisor who, in the appropriate language, can give information, instructions, training and supervision. If a contractor is responsible for engaging workers who cannot speak English then the Contractor should ensure that the contractor provides suitable translators. Equally, the same criteria will need to be implemented on other smaller sites.

4 Contractors are required to ensure that employees are trained and competent for the job they have to do. Not being able to communicate using the language of the country of residence does not mean that workers are not competent in their trade. Provided they are here legally, it would be extremely unwise to ban workers who can prove their competence, just because they cannot speak the language effectively or fluently. Provisions for such situations can and should be made.

Construction Site Safety
1.1.5 Appendix 1

Health and Safety Induction Training

Title:	Date
Location	Start time
Duration (minutes)	End time
Presenter's name	Presenter's signature

Inductee's name	Name of inductee's Contractors	Inductee's signature

Construction Site Safety
1.1.5 Appendix 2

Induction training checklist

- ☐ Access
- ☐ Accident reporting
- ☐ Working near, on or over water
- ☐ Asbestos
- ☐ Assembly points
- ☐ Boundaries
- ☐ Buried services
- ☐ CDM
- ☐ Competence
- ☐ Confidential issues
- ☐ Confined spaces
- ☐ Consultation with employees
- ☐ Contamination
- ☐ COSHH
- ☐ Competence
- ☐ Risk assessments
- ☐ Safe Systems of Work
- ☐ Safety harnesses
- ☐ Safety policy
- ☐ Safety signs and notices
- ☐ Scaffolding (incl. mobile scaffolds)
- ☐ Dangerous occurrences
- ☐ Dermatitis
- ☐ Discipline
- ☐ Dress code
- ☐ Drugs
- ☐ Drying rooms
- ☐ Edge protection
- ☐ Electricity
- ☐ Emergency evacuation
- ☐ Emergency procedure
- ☐ Environment
- ☐ Escape routes
- ☐ Excavations
- ☐ Eye protection
- ☐ Fall-arrest
- ☐ Site layout
- ☐ Site security
- ☐ Skin protection
- ☐ Smoking
- ☐ Tidiness (housekeeping)
- ☐ Toilets
- ☐ Fall prevention
- ☐ Fire
- ☐ First aid
- ☐ Flammable liquids
- ☐ Health and safety committee
- ☐ Hearing protection zones
- ☐ High visibility clothing
- ☐ Hoists
- ☐ Ladders/ stepladders
- ☐ Lasers
- ☐ Legal issues
- ☐ Lifting equipment
- ☐ Lighting
- ☐ Liquefied petroleum gas
- ☐ Manual handling
- ☐ Traffic routes
- ☐ Training
- ☐ Types of injury
- ☐ Vehicles
- ☐ Vibration
- ☐ Waste disposal
- ☐ Medication
- ☐ Method statements
- ☐ Mobile elevating work platforms
- ☐ Near-miss incidents
- ☐ Needles and syringes
- ☐ Noise
- ☐ Occupational health
- ☐ Overhead electricity cables
- ☐ Permits to work
- ☐ Personal protective equipment
- ☐ Plant and equipment
- ☐ Powers of Inspectors
- ☐ Registration schemes
- ☐ Reporting defects
- ☐ Restricted or prohibited areas
- ☐ Waste minimisation
- ☐ Waste minimisation
- ☐ Working at height

Appendix 3 Mandatory training

Worker name: …….. **Training Provider (**if applicable) …..... **Start date:** …….

Supervisor / educator…… **Position**…… **Facility** ……..

Copies of all signed sheets and certificates must be retained by supervisor and worker

Section 1–Mandatory training that does not require annual refresher training or is not site specific

Training	Mandatory / if required	Timing	Worker signature *I certify I have completed the following training components as required*	Supervisor / educator sign-off
Health and Safety Orientation	Mandatory	Prior to commencing duties		Name: Date: Signature:
Incident Prevention Training	Mandatory	Within 2 weeks		Name: Date: Signature:

Section 2–Mandatory training that is site specific or requires refresher training.

Training	Mandatory / if required	Timing	Worker signature *I certify I have completed the following training components as required*	Supervisor / educator sign-off
Role specific / Specific site induction ☐ safe work procedures, tools, PPE, etc.	Mandatory	Upon commencement		Placement 1: Name: Date: Signature:
☐ work area welfare ☐ security protocols ☐ Health and Safety rep contact details ☐ location of Health and Safety policies and procedures	Mandatory	Upon commencement		Placement 2: Name: Date: Signature:
				Placement 3: Name: Date:

				Signature: :
☐ location of first aid facilities registers and safety data sheets ☐ location of risk assessments				Placement 4: Name: Date: Signature: :
Fire and evacuation: General evacuation instructions	Mandatory	Within 2 days		Placement 1: Name: Date: Signature:
				Placement 2: Name: Date: Signature:
				Placement 3: Name: Date: Signature:
				Placement 4: Name: Date: Signature:
Fire and evacuation First-response evacuation instructions	Mandatory	Within 30 days		Placement 1: Name: Date: Signature:
				Placement 2: Name: Date: Signature:
				Placement 3: Name: Date: Signature:

Section 3–Additional training
(as identified by the TNA)

Program / course		**Worker signature** *I certify I have completed the following training components as required*	**Supervisor / educator sign-off**
Personal protective equipment			Name: Signature: Date:
Infection control / hand hygiene ☐			Name: Signature: Date:
Hazardous chemicals			Name: Signature: Date:
How to use MSDS for chemical safety and compliance COSHH assessment awareness			Name: Signature: Date: Name: Signature: Date:

Appendix 4 (The training provider must be approved by related government party –PWA, QCDD, etc.)

Trade	Standards	Renewal					Remarks
		N/A	Bi-Annual	Annual	3 years	5 years	
Lifting operators	As per client Third Party Approved List						
Lifting supervisors							
Lifting appointed person							
Lifting riggers/ Slingers							
Excavation supervisors							
Scaffolding erectors							
Scaffolding supervisors							
Confined space entry emergency response training							
Confined space All watcher							
Working at height supervisors							
First Aiders							
Fire wardens							
Fire marshals							
Banksmen							
Electricians							
LOTO Supervisors							
Plant operators (Forklift- dumpers- cradles- loaders- Bulldozers- shovels- MEWPS-etc.)							
Powered actualized (Spit gun) operators							
Welders							

Occupational Health and Safety – Construction Site Safety

1.1.6 General Health and Safety

1.1.6.1 The Management of Health and Safety at Work

1 Contractors are required to access the risks to workers in their undertakings, and to any other person whose health and/or safety may be adversely affected by a Contractors work activities. The phrase 'any other person' clearly encompasses contractors, members of the public, site visitors, employees of other contractors etc.

2 Contractors are required to implements any protective or preventive measure to control a risk or risks, they must do so in line with the following general principles:

3 These include:

(a) Avoiding risks where possible.

(b) Evaluating the risks that cannot be avoided.

(c) Combating risks at source.

(d) Adapting the work of an individual with a view to alleviating monotonous work and reducing its effects on health.

(e) Adapting to technical progress.

(f) Replacing the dangerous with the safe or less dangerous.

(g) Developing a coherent policy which influences the factors relating to the working environment.

(h) Giving collective measures priority over measures that protect the individual.

(i) Giving appropriate instructions to employees.

4 Contractors have a requirement to make effective arrangements, as are appropriate for the nature of the work activities carried out and the size of the company, for the management of all aspects of health and safety. Contractors must record the arrangements made for the effective planning, organisation, control, monitoring and review of the preventative and protective measures implemented.

5 Contractors are required to ensure that employees are provided with health surveillance where the findings of a risk assessment identify risks to the health and safety of employees that can be eliminated or reduced by applying health surveillance techniques.

6 Health surveillance should be introduced where the risk assessment indicates that:

(a) there is an identifiable disease or adverse health condition related to the work concerned

(b) there are valid detection techniques

(c) there is a reasonable likelihood that the disease or condition may occur under the particular conditions of work

(d) health surveillance has the potential to increase the protection of the health of the employees concerned.

7 Health surveillance techniques can be as simple as

(a) hand-checks for the early signs of dermatitis being carried out by a site manager or supervisor, who has received the appropriate training, or

(b) employees being asked to complete a short questionnaire on occupational health issues.

8 Alternatively, health surveillance can necessitate the engagement of medically trained persons and specialist equipment, for example, audiometry (hearing) checks.

9 Contractors are required to appoint one or more 'competent persons' to assist them in interpreting and complying with Qatar health and safety legislation, where the Contractors does not have the necessary training, experience or knowledge to carry out this duty themselves. If more than one 'competent person' is appointed, the Contractors must ensure that there is adequate co-operation between them.

10 Where the Contractors him/herself is not competent in matters of construction health and safety, the requirements of this Regulatory Document are normally satisfied by the employment of a suitably qualified and experienced health and safety adviser or the engagement of an appropriately experienced consultant.

11 The Contractors must ensure that any competent person who is not an employee, for example, a consultant, is adequately informed of all relevant facts in relation to site health and safety.

12 Given that in-house safety advisers or external consultants will usually only visit sites at a frequency that is deemed to be appropriate, the responsibility for the day-to-day management/monitoring of health and safety is often delegated to the site manager. In these circumstances, this regulation places a duty on the Contractors to ensure that the site manager is adequately trained and competent to discharge this duty.

13 A competent person is someone who has sufficient training and experience, or knowledge and other qualities, to enable them to properly assist the Contractors in complying with relevant health and safety legislation.

14 Competence may be indicated by membership of a recognised Institution of Occupational Safety and Health and/or possession of a qualification in Occupational Safety and Health from an appropriate accrediting body.

15 Contractors are required to implement procedures to be developed for any particular serious and - imminent dangers that may arise. This will very much depend on both the activities of the Contractors and the location. Fire is a real risk for everyone almost everywhere, but bomb threats in rural locations may not be.

16 Other serious and imminent dangers may relate to LPG, HFL, collapse of scaffold, excavations, confined spaces or virtually anything else. Again, Contractors should know their industry.

17 Once such procedures have been developed, the workforce must receive the appropriate information, instruction and training.

18 Contractors are required to establish contact with external agencies as necessary, particularly with regard to first aid, emergency medical care and rescue work.

19 Contractors must provide their employees with comprehensible (understandable) and relevant information on:

(a) the risk to their health as identified by any part of the Contractors risk assessments

(b) any preventive or protective measures taken to eliminate or reduce the risks identified

(c) any risks notified to the Contractors that arise out of the work activities of another Contractors.

20 Where there is more than one Contractor in the workplace, they must co-operate with each

other with regard to health and safety, to enable both (or all if there are more than two) Contractors to fulfil their legal duties.

21 This may require planning exchanges of information on hazards and risks, or deciding who works where and when and, on larger sites, a health and safety co-ordinator may be needed. The client, the Contractor or a nominated contractor may have, or have been given, by contract or arrangement, the co-ordination role.

22 Contractors are required to ensure that when allocating a task to any employee, the Contractor takes into account the employee's capabilities (knowledge, training, experience etc.) with regards to health and safety.

23 The Contractors also has a duty to ensure that employees are provided with adequate health and safety training:

(a) on recruitment

(b) upon being exposed to new or increased risk.

24 This training must be:

(a) repeated periodically where appropriate

(b) reviewed and adapted to take account of any new or changed risks

(c) during working hours.

25 Employees are required to:

(a) use all tools, equipment, dangerous substances, safety devices etc. in accordance with any training received.

(b) report to the Contractors (or Contractors health and safety 'competent person') any work situation which the employee feels is not safe.

26 Contractors (and in some cases self-employed persons) with regard to the employment of workers who are employed under a temporary contract or supplied by a Labour agency.

27 Before starting work, such workers must be supplied with comprehensible (understandable) information on:

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

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

28 The above bullet points have obvious implications where temporary workers, whose first language is not English, are to be employed. See notes below.

29 Contractors are required to inform any Labour agency who are to supply temporary workers of:

(a) any special occupational qualifications or skills that must be held by the temporary worker(s) to enable them to work safely

(b) any features of the work to be carried out by the temporary workers insofar as those features are likely to affect their health and safety.

30 Contractors should respond after notification that the employee is pregnant. Exposure limits, working conditions and working hours for such workers must be taken into consideration.

31 Contractors are required to specifically assess and review the risks to the health and safety of young persons who are on site. Due account must be taken of their lack of maturity or experience and their lack of knowledge of potential risks

32 Unless:

(a) it is necessary for their training

(b) they are under the supervision of a competent person

(c) the risks are reduced to the lowest level that is reasonably practicable

33 No Contractors may employ a young person for work which:

(a) is beyond their physical or psychological capacity

(b) involves exposure to agents which are toxic, carcinogenic or otherwise have serious specific health implications

(c) involves harmful exposure to radiation

(d) involves the risks of accidents because of their lack of experience and/or training

(e) involves a risk to health from extreme cold or heat, noise or vibration.

34 A 'young person' is anyone over the minimum school leaving age but under 18 years of age.

1.1.6.2 Manual Handling Operations

1 These require that simple, common sense measures be taken to prevent injuries to workers resulting from carrying or otherwise moving loads manually.

2 An injury is any injury, not just to the back, and would include cuts from sharp edges or broken toes caused by dropped objects.

3 A load is virtually anything, including a person, an animal, a bag of cement, heavyweight building blocks - in fact, any moveable object. The only proviso is that a tool is not a 'load' while it is being used. A Labourer carrying a chainsaw to a carpenter would be carrying a load.

4 Manual handling means transporting, supporting, lifting, putting down, pushing, pulling, carrying or moving anything by hand or bodily force.

5 Contractors are required to avoid manual handling operations which involve a risk of employees being injured, as far as is reasonably practicable and, where manual handling cannot be avoided, to carry out risk assessments and introduce alternatives to manual handling, control measures and appropriate training.

6 Employees are required to make full and proper use of all equipment or systems provided by the Contractors.

1.1.6.3 Provision and Use of Work Equipment

1 Every Contractor must ensure that all work equipment is constructed or adapted to be suitable for the purpose for which it is intended.

2 **Definition of work equipment:** Any tool or piece of equipment for use at work.

3 There is a non-exhaustive list of work equipment, and construction-related examples including:

(a) dumper truck

(b) ladder

(c) air compressor

(d) crane

(e) tractor

(f) hoist

(g) mobile work platform

(h) hammer

(i) lifting sling

(j) podger

(k) drill bit

(l) socket set

(m) scaffolding.

4 **Use** is defined as any activity involving work equipment.

5 All vehicles used on site are covered by these Regulations.

6 Contractors are required to ensure that work equipment is suitable for the purpose, and only used under conditions for which it is suitable.

7 Contractors are required to ensure that work equipment is inspected before used on site, and properly and adequately maintained.

8 Contractors are required to ensure that specific risks are identified, information and instructions to employees and the training of employees take place.

9 Contractors must ensure that all work equipment, whether European Conformity (CE) marked or not, complies with all current British or International standards.

10 The basic principle is that every dangerous part of any machine or piece of equipment must be effectively and properly guarded at all times, but provisos do exist for certain circumstances, such as the use of push sticks on woodworking machines.

11 Controls should be efficient, effective, easy to use, clearly marked and easily accessible. The main requirement is to provide safe equipment for the employee, with controls that allow it to be used in a safe manner. It goes without saying that emergency stop controls feature quite significantly.

12 Contractors are required to ensure that lighting must be suitable and sufficient, taking account of the work operation in progress.

13 Contractors may also have to consider the need for both access lighting and task lighting.

14 Contractors are required to ensure that all ‘markings’ must be clear and appropriate, and 'warnings' which may be audible or visible and they must be unambiguous, easily perceived and easily understood.

15 Contractor to assess and confirm that the operator of all work equipment is qualified, competent, and licensed (if applicable) to operate / use the said equipment.

1.1.6.4 Personal Protective Equipment

1 The main consideration when dealing with personal protective equipment is that it should always be the last form of protection, or control, considered for the protection of the employees' health and safety.

2 No distinction is made between equipment and clothing. Personal protective equipment (PPE)

includes all types of respiratory protective equipment (RPE).

3 Contractors are required to ensure that personal protective equipment is suitable and provided, where a risk cannot be adequately controlled in some other manner.

4 Contractors are required to ensure compatibility if more than one item of personal protective equipment needs to be worn at any time, so that one item does not detract from the protection offered by another.

5 This is of particular importance to the building and construction industry as, on many occasions, a combination of safety helmet, eye protection, ear protection or respiratory protection needs to be worn.

6 Contractors are required to ensure assessments to be made of the suitability of the equipment with regard to the nature of the risk.

7 The requirements of the assessment are specified and, in general, require the problem to be thought through in a structured manner and - the right equipment chosen for the right reasons.

8 A key factor is the competence of the person carrying out the assessments. If they do not get it right, the consequences for the health and safety of employees could be very serious.

9 Assessments must be reviewed when they become out of date or there are any significant changes.

10 Contractors are required to ensure that personal protective equipment provided shall be properly maintained, cleaned or replaced as appropriate; that adequate and suitable storage or accommodation is provided for it; and that employees receive all necessary information, instruction and training.

11 Training must be comprehensible and the question of language use must be considered.

12 Employees are required to use personal protective equipment in accordance with any instructions or training given, and to report any loss or defects.

Construction Site Safety

1.1.7 Risk Assessments and Method Statements

1.1.7.1 Interpretation

1 "contractor" means any organization or person who carries out or manages construction work or a place of work and includes any 'employer' or 'self-employed' in relation to a business

2 "business" means a trade, business or other undertaking including construction work (whether for profit or not)

3 Construction work means the carrying out of any building, civil engineering or engineering construction work and includes:

(a) the construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance, de-commissioning, demolition or dismantling of a structure;

(b) the preparation for an intended structure, including site clearance, exploration, investigation and excavation, and the clearance or preparation of the site or structure for use or occupation at its conclusion;

(c) the assembly on site of prefabricated elements to form a structure or the disassembly on site of prefabricated elements which, immediately before such disassembly, formed a structure;

(d) the removal of a structure or of any product or waste resulting from demolition or dismantling of a structure or from disassembly of prefabricated elements which immediately before such disassembly formed such a structure; and

(e) the installation, commissioning, maintenance, repair or removal of mechanical, electrical, gas, compressed air, hydraulic, telecommunications, computer or similar services which are normally fixed within or to a structure

(f) Any associated temporary works associated with construction works and a work activity

4 Work activity means any activity part of construction work and includes temporary works

5 "Young person" means any person who has not attained the age of eighteen. A young person under 16 years of age cannot be employed at all in a Qatar workplace, as per Qatar Labour Law 14, Article 86.

6 These duties are held by the contractor who carries out the work, irrespective of whether he is an employer or is self-employed.

7 These duties are also held by those who do not do construction work themselves, but control the way in which the work is done or manages construction work or owns and manages a place of work.

8 'Suitable and sufficient' means the risk assessment should identify the risks arising from or in connection with the work and the level of detail should be proportionate to the risk. The level of risk arising from the work activity should determine the degree of sophistication of the risk assessment.

9 A method of work shall mean a method statement describing the logical sequence of how a work activity is to be carried out safely and without risk to health

1.1.7.2 Risk assessment

1 Every contractor shall make a suitable and sufficient risk assessment:

(a) To the health and safety of his employees to which they are exposed whilst they are at work; and

(b) To the health and safety of persons not in his employment arising out of or in connection with his undertaking

2 Any assessment referred to in paragraph (1) shall be reviewed if:

(a) There is reason to suspect that it is no longer valid; or

(b) There has been a significant change in the matters to which it relates.

3 A contractor shall not employ a young person unless he has undertaken or reviewed his risk assessment in accordance with paragraphs (1) and (4) below in relation to risks to the health and safety of young persons.

4 In making or reviewing the assessment, a contractor who employs or is to employ a young person shall take account of:

(a) The inexperience and immaturity of young persons;

(b) The lack of awareness of risks in relation to the work to be undertaken and or the risks impacting on the role of young persons

(c) The extent of the health and safety training provided or to be provided to young persons

5 Any risk assessment referred to in paragraph (1) shall take into account

(a) language difficulties and language barriers of employees

(b) safety culture and other behavioural safety issues of employees

(c) The development and implementation of effective techniques as essential mitigations to (a) and (b) above.

6 The contractor shall record:

(a) The significant findings of the risk assessment; and

(b) Any group of his employees and others identified by it as being especially at risk.

(d) the controls to be put in place to control risks

7 The contractor is required to ensure that employees are provided with health surveillance where the findings of a risk assessment identify risks to the health and safety of employees that can be eliminated or reduced by applying health surveillance techniques.

1.1.7.3 Method of work

1 Risk assessment shall be supported by effective and suitable written method of work describing the logical sequence of how a work activity is to be carried out in a manner which is safe and without risk to health.

2 Any written method of work referred to in paragraph (8) shall be developed by a competent person who has knowledge and experience of the work activity being assessed and its development shall involve consultation with those undertaking the work activity.

3 Any risk assessment and method of work referred to in paragraph (1) and (8) respectively shall be developed before undertaking of any work activity and shall be communicated to and acknowledged by those who will undertake the work activity.

4 Any risk assessment and method of work referred to in paragraph (1) and (8) respectively shall

be submitted by the Contractor to the Client and/or Engineer for review and approval before undertaking of any work activity.

5 If there is any deviation from the work activity as per the approved risk assessment and method of work referred to in paragraph (1) and (8) respectively, the Contractor shall stop the work activity and the risk assessment and method of work shall be reviewed and revised accordingly. The revised risk assessment and method of work shall be submitted to the Client and/or Engineer for approval before re-undertaking of any work activity and shall be communicated to and acknowledged by those who will undertake the work activity.

6 Any risk assessment and method of work referred to in paragraph (1) and (8) respectively shall identify the requirements for the contractor to provide for his employees:

(a) information about how to undertake the work safety and without risk to their health

(b) implementation of instructions for undertaking the work safety and without risk to their health

(c) identify and conduct necessary training to employees so that they have the understanding and skills to undertake the work activity without risk to their health and safety

(d) implementation of competent supervision of the work.

Note

Guidance on Risk assessment and written method of work can be found in Section 2.4 (Section 11, Part 2 of QCS)

1.1.8 Construction (Design and Management)

1.1.8.1 Background and Introduction

1 The overall concept of Construction (Design and Management) (CDM) regulations is to focus on planning, design and management to improve health and safety standards on Qatar construction industry without creating unnecessary paperwork and bureaucracy.

2 The construction industry is a project based industry with each project being unique, as defined by the Project Management Body of Knowledge (PMBOK) and each with unique life cycles involving a large number of parties, phases and interactions.

3 Any failure by one party affects others engaged on the project, the phases, interactions and the project life cycle performance.

4 Hence the role of each party in each phase and the interactions are important, especially in the early project phases of planning and design where there is maximum opportunity for influence. For instance, Designers are in a unique position at the early stage of the project to identify issues and risks that could arise during the construction phase or at a later stages that can jeopardise the project performance in terms of failures such as construction injury or fatality, ill health in use, harm to the environment, structural failures, damage to assets and loss of use, etc.

5 There is a real need to make projects more successful and performance based throughout their life cycle starting from the concept going onwards through to design, construction, use, maintenance, and end of service life.

6 The aim of CDM regulations is to ensure that these failures are attenuated by imposing specific legal duties to project parties so that special attention is given to key knowledge areas in delivering projects considering all subject matters, e.g. architecture, civil, mechanical, electrical, structural and other disciplines such as ICT and AV, etc. and their interactions throughout the project life cycle.

7 Hence It is the responsibility of the developers, architects, engineers, builders and others engaged in the design and construction of projects to be conversant with the requirements pertaining to the CDM regulations to consider better, more efficient and safer systems, methods, technologies, materials and products through design.

8 A unified approach is needed where CDM responsibilities are distributed to subject matter experts based on their areas of responsibility to achieve full CDM compliance.

9 The CDM duties in design are very distinct to those in Construction and both shall be managed appropriately by individuals having the right competence.

10 Many cases of failure are linked to poor ‘Technical Quality’ of project deliverables. Thus ‘Technical Quality’ of all project deliverables is crucial key in management of CDM.

11 Safety by Design is only one of the aspects of CDM and shall not be confused with the CDM broader set of duties and requirements.

12 As commonly misunderstood, CDM is not HSE (HSE is part of CDM) but rather the overall focus on safety, efficiency and performance of construction projects to raise the industry standards through application of tools, techniques, skills and knowledge at all stages of the project, from the very project concept phase onwards to maximize project life cycle performance.

1.1.8.2 Definitions & Interpretations

1 **ALARP** means As Low As Reasonably Practical

2 **CDM Issues**: mean any matter such as ineffective design, design loopholes, ambiguity in design, poor technical quality of deliverables, Tender ability issues, inadequate construction planning, poor site logistics management, insufficient risk management, lack of coordination, design or planning gaps, lack of construction logistics considerations, poor welfare conditions on site and bad health and safety practices etc. that may lead or contribute to a project failure such as structural failures, poor life cycle performance, construction injury or fatality, ill health in use, harm to the environment, operations and maintenance issues, damage to assets and loss of use or any other matters that affect the project life cycle performance.

3 **CDM Design Management Plan** means a plan prepared by the designer before start of design works setting out the planning and management arrangements of how CDM compliance will be achieved.

4 **Client:** A client means a person or an organisation or a company who seeks or accepts the services of another person, organisation or company to carry out a project for him. The Client can carry out the project himself. The term 'client' excludes 'domestic' clients. People must be having construction work carried out as a part of their business activities (whether for profit or not) to be classified as a client under these Regulations. Clients must ensure that arrangements are made for managing the projects and providing relevant information.

5 **Designer**: Any person or organisation or company who in the course of a project or business prepares or modifies a design; or arranges for or instructs any person under his control to do so.

6 **Design**: Includes drawing, design details, specification, bills of quantities and calculations prepared for the purpose of designing all aspects of a structure or any products or electrical or mechanical systems intended for a particular structure.

7 **Construction work:** Any building, civil engineering or engineering construction work. It includes any of the following:

(a) any construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance, cleaning (using water, abrasives at high pressure, or the use of corrosive or toxic substances), decommissioning, demolition or dismantling of a structure

(b) preparatory works including site clearance, exploration and investigation (but not site survey) and clearance or preparation of the site or structure for use or occupation

(c) assembly of prefabricated structures or their disassembly

(d) demolition or dismantling of any structure and the removal of materials and waste

(e) fabrication of elements which will form parts of offshore installations

(f) the construction of fixed offshore oil and gas installations at the place where they will be used

(g) the installation, commissioning, maintenance, repair or removal of mechanical, electrical, gas, compressed air, hydraulic, telecommunications, computer or similar services which are normally fixed within or to a structure.

8 The activities listed below have been defined as not being construction work. However, given the complexities of many modern projects, thought may have to be given to how CDM Issues

is managed in connection with these activities where they form a part of the project to which CDM otherwise applies:

(a) putting up and taking down tents

(b) normal maintenance of items of plant unless it is structural work, for example, maintaining a large silo, chemical or nuclear reactor

(c) tree planting and general horticultural work

(d) work with removable lightweight

(e) partitions, such as those used to divide open-plan offices or to create exhibition stands and displays

(f) erection of scaffolds for support or access in non-construction work

(g) surveying - this includes taking levels, making measurements and examining a structure for faults

(h) work to or on vessels such as ships and mobile offshore installations

(i) off-site manufacture of items for later use in construction work (for example, roof trusses, pre-cast concrete panels, bathroom pods and similar prefabricated elements and components)

9 **Engineer**: Refer to QCS – Section 1 (General) – Part 1 (Introduction) – 1.4 (Terms and Definitions).

10 **Contractor**: Refer to QCS – Section 1 (General) – Part 1 (Introduction) – 1.4 (Terms and Definitions). This is also the Main Contractor.

11 **Sub-Contractor**: means any person or organisation selected by the contractor for execution or management of construction works. A sub-contractor works under the control of the Contractor on site.

12 The construction phase starts when actual construction work on the project commences, and normally ends on the transfer or handing over of the structure to the client. If there is more than one structure (or building), the construction phase does not end until the work on the last structure is complete.

13 **Construction Phase Plan** (CPP): The Contractor must develop a plan proportionate to the level of risks that the project entails to address all CDM Issues suitable for managing them in the construction phase of the project. This includes developing the information provided by the Client, Designers and Engineer. This must be completed, submitted and approved as suitable and sufficient by the Client before construction work on site can proceed.

14 The basis of the CPP is to set out how practically how Works are controlled taking into account all CDM Issues, setting out who does what, who is responsible for what and management arrangements of how hazards and risks will be managed.

15 The CPP shall look at wider site specific issues on an integrated basis (It shall not be confused with the project HSE plan) and shall adopt an integrated approach for constructability issues, interfaces, trades, temporary works, logistic challenges, traffic management, security, health and safety, environment.

16 The CPP as a live document, and shall be used as a planning tool before execution of the works.

17 **Construction site**: includes any place where construction work is being carried out or to which the workers have access, but does not include a workplace within it which is set aside for purposes other than construction work.

18 **Principles of Prevention**: means the that principles duty-holders shall use in their approach to identifying the measures they should take to control the risks and CDM Issues through risk based approaches, e.g. eliminating the risk/issue as the first priority, and if not possible, to bring them to ALARP so that they are manageable.

19 **Lead Designer**: Is the organisation (also referred to as the Lead Design Consultant or Contractor Lead Designer on Design and Build Project) appointed on a project which involves a number of designers and whereby it will undertake the major parts or bulk of design and shall have sufficient knowledge, experience and ability to carry out the role

20 **Project**: means an undertaking (whether for profit or not) which includes or is intended to include construction work and includes all planning, design, management or other work involved in a project until the end of the construction phase.

21 **Structure**: This is defined as:

(a) any building, any masonry, timber, metal or reinforced concrete structure, railway line or siding, dock, harbour, inland navigation, tunnel, shaft, bridge, viaduct, waterworks, reservoir, pipe or pipe-line, cable, aqueduct, sewer, sewage works, gasholder, road, airfield, sea defence works, drainage works, earthworks, lagoon, dam, wall, caisson, mast, tower, pylon, underground tank, earth retaining structure or structure designed to preserve or alter any natural feature, fixed plant and any structure similar to the foregoing;

(b) any formwork, falsework, scaffold or other structure that provides temporary support or access

22 **Tenderability**: means suitability of the design documents as forming part of a Construction Tender package. Any Tenderability review shall aim at identifying any omission in the design documentation which may lead to construction and future life cycle issues by checking the Scope of work, design basis, accuracy of the drawings and specifications, quality of the design documentation, absence of pertinent information, and various other factors which might result in a gap between the design and the project life cycle performance.

23 **Administrative Authority:** Any Qatar organization or entity with responsibility or jurisdiction over the area where work is being undertaken or owner of the asset. Such organizations shall include but not limited to the military, interior, oil & Gas, Electricity, Water, Traffic, Labour, Civil Defense, Telecommunications and Government Organizations within the State of Qatar.

1.1.8.3 Applicability

1 The CDM Regulations apply to all construction projects and Construction Work (see definition above) in Qatar.

1.1.8.4 General

1 The Client has substantial influence and contractual control and their decisions and approach determine:

(a) the time, money and other resources available for projects

(b) who makes up the project team, their competence, when they are appointed and who does what

(c) whether the team is encouraged to co-operate and work together effectively

(d) whether the team has the information that it needs about the site and any existing structures

(e) the arrangements for managing and coordinating the work of the team

2 Because of this, they are made accountable for the impact their approach has on the project lice cycle performance, CDM Issues and those affected by the project. However, these Regulations also recognise that many clients would know little about CDM, so clients are not required or expected to plan or manage projects themselves.

3 Further to the above, Clients are do not have to develop substantial expertise in CDM, unless this is central to their business. Clients must ensure that various duties are complied with, but are not normally expected to do them themselves, hence appointment of the CDM Engineer. The client remains responsible for ensuring that client duties are met.

4 Clients can also, intentionally or unwittingly, take on additional responsibilities for example when they direct design decisions for example, specifying materials or methods of working- they will deem to them bear the design responsibilities and liabilities with respect to the design decision making.

5 Client will in a similar way bear the impacts of construction liabilities if they influence directly the Contractor construction work on site.

1.1.8.5 The Client and Client Duties

1.1.8.5.1 What clients must do for all projects

1 The Client shall appoint a competent and resourceful CDM Engineer as soon as the decision to progress with the project main design is made, that is at project initiation or before concept design.

2 The CDM engineer will

(a) advise and assist the Client with all of its duties.

(b) co-ordinate the arrangements for CDM during the planning phase

(c) ensure that the project in its entirety is CDM compliant.

3 If not such appointment is made, the Client takes on the CDM Engineer role by default and bear all the CDM duties and responsibilities.

4 The Client shall ensure that Designers that they propose to engage are competent and are adequately resourced. The CDM Engineer shall assist the Client so that competent appointments are made, by including in the procurement process the necessary CDM criteria on a case by case basis in a manner proportionate to the project complexity, nature and scale. The CDM Engineer should if asked by the Client assist with evaluation and selection of the Designer.

5 As above but for Contractor appointment if Design and Build project or Construction.

6 As point (4) and (5) above for any other appointments.

7 The Client shall ensure that CDM Issues (as defined under the regulations) are reviewed and addressed for all projects, including issues like Technical Quality, Tenderability, life cycle performance, etc.

8 The Client shall allow sufficient time for planning of the project, especially for design and construction mobilisation. The mobilisation period shall be proportionate to the project Scale, nature and complexities and the level of risks that the project entails.

9 The Client shall co-operate with others concerned in the project as is necessary to allow other duty holders to comply with their duties under these Regulations.

10 The Client shall co-ordinate their own work with others involved with the project in order to ensure the safety of those carrying out the construction work, and others who may be affected by it;

11 The Client shall ensure that there are reasonable Management Arrangements (See next Section below) in place throughout the project to ensure that the design and construction work can be carried out, so far as is reasonably practicable, taking into account all CDM Issues. (This does not mean managing the work themselves, as few clients have the expertise and resources needed and it can cause confusion).

12 The Client shall ensure that Contractors have made arrangements for suitable welfare facilities to be provided from the start and throughout the construction phase;

13 The Client shall ensure that the project design takes into account of workplace requirements and that suitable considerations are given for workplaces (for example office and commercial buildings, factories, schools and any other structures which can serve as a workplace, including maintainers) by design, i.e. the Designers have taken into consideration workplace requirements, e.g. safe place for maintainers, elimination of sick building syndrome, design of safe and healthy workplaces, etc. The CDM Engineer shall assist the Client with this duty by ensuring that the Designers design for workplaces.

14 The Client shall pass on relevant information in his possession and any other information relevant to the project likely to be needed by Designers. This is termed as Pre-Design Information. This will provide information for those bidding for the design of the project and will ensure that the project is suitably planned and priced.

15 As above but information relevant for Contractors and Sub-contractors or others to enable them to proceed with their Works in a manner complaint with CDM. This is termed as Pre-Construction Information. This will provide information for those bidding for the construction of the project and will ensure that the project is suitably planned and priced taking into account the Pre-Construction information.

16 The Client shall ensure that the construction phase does not start unless:

(a) the contractor has prepared a CPP which complies with Section 1.1.8.32); and

(b) the contractor have made arrangements for suitable welfare facilities to be provided from the start and throughout the construction phase

17 The Client shall appoint the main Contractor in writing highlighting the terms of CDM regulations and compliance requirements. This can be made at one go within the letter of award.

18 The Client shall ensure that a suitable integrated system of information management is put in place as construction of the project is developed. This shall be planned at the early stages of construction and shall not be left for the last stages.

(a) The integrated information shall ensure that all future relevant information is captured such as residual hazards, risks, as-built information.

(b) The integrated information shall be part of the asset information management systems as the built facilities become built assets.

(c) The integrated information shall serve as a basis for all future works on the built projects or assets and shall be resilient, reliant and future proofed.

(d) Such information must be passed on to any new owner of the constructed facilities and they will have the duty to keep information updated at all times, especially after future works are carried out, the information shall be updated.

19 The Engineer shall take a proactive role at the early staged to advise and assist the Client and others to ensure compliance with the requirements on integrated information management and interfacing matters.

1.1.8.5.2 The Client Duty in relation to Management Arrangements

1 Clients shall take reasonable steps to ensure that suitable management arrangements are in place throughout the life of the project. The arrangements put in place should focus on the needs of the particular project and should be proportionate to the project nature, scale ad complexities.

2 Clients must appoint a competent engineer who will assist them with the assessment of the adequacy of the management arrangements made by others in the project team. Having appointed a competent engineer, the client is entitled to rely on their advice when making judgements.

3 The amount of effort put into eliminating hazards and reducing risks should depend on the degree of risk. There is little point in spending a lot of money, time and trouble on low risk issues. There is also little to be gained by detailed comparison of construction techniques that present similar risks, for example whether to specify a steel frame or concrete portal building. The focus should be on issues that are known to have the potential to cause significant harm, and where there are known solutions that reduce the risks to everyone exposed during the life cycle and performance of the project.

4 In relation to the management arrangements for a project, the client must take reasonable steps to ensure that:

(a) The project design is fully CDM compliant (see section 3).

(b) Sufficient time and resources is allocated to ensure that the project programme is realistic

(c) An integrated approach is adopted with regards to the project construction phase considering constructability issues, interfaces, trades, temporary works, logistic challenges, traffic management, security, health and safety, environment.

(d) so far as is reasonably practicable, the project will be managed in such a way that the construction Works can be carried out without avoidable risks to the safety of those constructing it or indirectly involved including members of the public or non-site staff.

(e) there are suitable welfare facilities both on site and off site for the people engaged in the construction work (Appendix 1)

(f) All Designers are promptly provided with relevant Pre-Design Information

(g) All Contractors and Sub-Contractors are promptly provided with relevant Pre-Construction Information.

(h) The above arrangements are maintained and reviewed throughout the project.

5 The Pre-Design Information must include all relevant information which is in the client's possession, or can be reasonably obtained, including information that relates to:

(a) Historic information

(b) Existing surveys

(c) anything likely to affect the design further to site specifics such as existing assets, existing conditions

(d) the proposed use of the structure as a workplace

6 The Pre-Construction information must include all relevant information which is in the client's possession, or can be reasonably obtained, including information that relates to:

(a) anything likely to affect the site or the construction work, for example the presence of asbestos, contaminated ground, unchartered services

(b) the minimum amount of time before the construction phase starts allowed for planning and preparation (mobilisation)

(c) Stakeholders and interfaces that can be affected by the construction work

7 The purpose of the provision of information by the client is to assist the persons to whom information is provided to:

(a) perform their duties under these Regulations

(b) determine the impacts, risks and mitigation to better manage the project

8 In situations where there are a number of organisations, any of which could be the client, one of the organisations must elect in writing to take on the role of client. This needs to be by agreement. In this case, none of the other organisations have any duties under these Regulations.

9 The client shall ensure that arrangements are in place to ensure that:

(a) there is clarity as to the roles, functions and responsibilities of members of the project team;

(b) All those within the designers and Contractors project teams have CDM competence and CM roles and responsibilities are distributed to the extent of each subject matter expert responsibilities.

(c) those with duties under CDM have sufficient time and resource to comply with their duties;

(d) there is good communication, co-ordination and co-operation between members of the project team (for example between designers and contractors);

(e) designers are able to confirm that their designs (and any design changes) have taken account of the requirements of their designer's duties, and that the different design elements will work together in a way which does not create risks to the performance of the project and safety of those constructing, using or maintaining the project or parts of it.;

(f) Contractors are able to confirm that health, safety, environment, security and welfare standards on site and off site will be controlled and monitored

(g) Welfare facilities will be provided by the contractor from the start of the construction phase through to handover and completion.

(h) Off-site welfare and labour accommodation shall be compliant with Client specific standards

10 Most of these arrangements will be made by others in the project team, such as designers and contractors. Before they start their work, the Client shall ensure that the Designer has submitted its Design management plan addressing the CDM approach and management arrangements. Similarly the CPP shall cover the Contractor's scope of works.

11 When deciding whether management arrangements are suitable and maintained throughout the project, clients shall make a judgement, taking account of the nature of the project, the scale and the risks that the work will entail. If this judgement is reasonable and clearly based on the evidence requested and provided, clients will not be criticised if the arrangements subsequently prove to be inadequate, or if the company who has made the arrangements fails to implement them properly without the client's knowledge

1.1.8.5.3 Who are clients?

1 A client is an organisation or individual for whom a construction project is carried out. Clients only have duties when the project is associated with a business or other undertaking (whether for profit or not). This can include for example, Qatar Ministry's, Insurance Companies or Private Developers.

1.1.8.5.4 Domestic clients

1 Domestic clients are people who have work done on their own home or the home of a family member, that does not relate to a trade or business, whether for profit or not. It is the type of client that matters, not the type of property.

2 Domestic Clients do not have to appoint a CDM Engineer

3 Designers and contractors working for domestic clients have to manage their own work and co-operate with and co-ordinate their work with others involved with the project so as to safeguard the CDM Issues of the project.

1.1.8.5.5 Multiple Clients

1 There can sometimes be more than one client involved in a project in its design and build life cycle and it may not be immediately obvious who is the client. To avoid confusion, this needs to be resolved by those involved at the earliest stage possible. Take into account who:

(a) ultimately decides what is to be constructed, where, when and by whom;

(b) commissions the design and construction work (the employer in contract terminology);

(c) initiates the work;

(d) is at the head of the procurement chain;

(e) engages the contractors

2 If there is still doubt, then all of the possible clients can appoint one of them as the only client for the purposes of these Regulations. Someone will always be the client. It is in the interests of all possible contenders to identify who it is. If not, they run the risk that all will be considered to carry the client's duties under these Regulations.

1.1.8.5.6 Client Duty to Appoint the CDM Engineer

1 The client must appoint a competent, adequately resourced engineer as soon as practicable after initial design work or other preparations for construction work have begun.

2 The engineer provides clients with a key project advisor in respect of CDM matters. Their main purpose is to help clients to carry out their duties; to co-ordinate CDM aspects of the design work and assist to develop important CDM information that would be used for the future of the built project or facilities as part of asset management.

3 Early appointment is crucial for effective planning and establishing management arrangements from the start. CDM requires the appointment to take place as soon as is practicable after initial design work or other preparation for construction work has begun. This allows the client to appraise their project needs and objectives, including the business case and any possible constraints on development to enable them to decide whether or not to proceed with the project before appointing the engineer. The engineer needs to be in a position to be able to co-ordinate design work and advise on the suitability and compatibility of designs, and therefore they should be appointed before significant detailed design work begins. Significant detailed design work includes preparation of the initial concept design and implementation of any strategic brief. As a scheme moves into the detailed design stage, it becomes more difficult to make fundamental changes that eliminate hazards and reduce risks associated with early design decisions.

4 Proper consideration of the CDM implications of the design for those who build and maintain the structure will make a significant contribution to reducing its whole life cost, and will make delivery to time, cost and quality more likely.

5 The engineer can be an individual or a company. Engineers can be appointed independently of any other role on the project team, or they may combine this work with another role, for example, project manager, designer or contractor. Where the role is combined, it is crucial that the engineer has sufficient independence to carry out their tasks effectively. The tasks can be shared out, but when this happens it is important to make sure that all of the duties are discharged. On simple projects, one person should be able to provide all of the support that clients need, but a team approach will be more common for larger or more complicated projects because of the workload and skills required.

1.1.8.5.7 Client Duty in Relation to Arranging Design Work

1 Clients must only employ designers who are competent to carry out their CDM duties.

2 Clients often employ more than one designer, for example architects, civil, structural and services engineers. In such cases they all need to know who does what, and the timing of the appointments needs to enable the design work to be co-ordinated from an early stage. Nominating one designer as the ‘lead designer’ is often the best way to ensure co-ordination and co-operation during work which involves a number of designers.

1.1.8.5.8 Client Duty in Relation to Co-operation and Co-ordination

1 Co-operation between parties and co-ordination of the work are key to the successful management of CDM Issues. Co-operation and co-ordination can only be meaningful if the relevant members of the project team have been appointed early enough to allow them to contribute to CDM risk reduction.

2 Coordination and cooperation is particularly important during the early stages and the design stage when both Clients and Contractors and its Designers (for a Design and Build Contract) or Client and the designers (for a Design, Bud, Build) contract shall include in an integrated fashion as part of the project planning, CDM Issues focusing on life time performance with specific regards to constructability, use, maintenance and end of service life issues of the

finished structure. This process shall also include considerations for facilities management requirements and operational business planning.

1.1.8.5.9 Client Duty in Relation to Integration, Timeliness and Resources

1 Hence Clients should seek to appoint competent parties who positively assist with CDM design considerations at the earliest opportunity so that they can make a full contribution to CDM risk reduction during the planning stages.

2 Lack of appreciation and lack of competence are the two largest contribution of poor integration of CDM into project delivery, especially during the planning and design phase.

3 Unrealistic deadlines and a failure to allocate sufficient funds are two of the largest contributors to poor control of risk on site. When engaging designers, contractors, and appointing engineers, Clients have to consider the resources (for example staff, equipment and, particularly, time) needed to plan and do the work properly. Any contractors who are being considered for appointment should be informed of the minimum time period allowed to them for planning and preparation before construction work begins on site. Contractors should be given sufficient time after their appointment to allow them to plan the work, mobilise the necessary resources (for example welfare facilities) and staff to allow execution without risk to the project performance and enable careful planning and implementation of CDM compliance.

4 Clients are also required to inform Contractors who they engage to carry out construction work the minimum notice that they will be given before they are expected to start construction work. This is to ensure that Contractors have sufficient time to plan and prepare – for example mobilise their workforce and equipment, and make arrangements for welfare facilities to be provided.

5 The above is of particular importance where the project involves demolition work. Contractors must be given sufficient time for the planning and safe execution of any demolition activities.

6 Clients should consult with appointees (including the contractor) to find out how much time they will need for planning and preparation before work is expected to start in order that both parties can agree a suitable time period.

1.1.8.5.10 Client duty with regards to Providing Information

1 Clients must provide Designers and Contractors who may be bidding for the work (or who they intend to engage), with the project-specific CDM information needed to identify hazards and risks associated with the design and construction work.

2 The information shall be included as part of the early procurement process or tendering, and responses to the issues identified can be a real help when judging competence of those tendering for the work. It therefore needs to be identified, assembled and sent out in good time, so that those who need it when preparing to bid or when preparing for the work can decide what resources (including time) will be needed to enable design, planning and construction work to be organised and carried out properly.

3 The engineer should check the information to ensure that it is complete, advise the client if there are any significant gaps or defects, and ensure these are filled by commissioning surveys or by making other reasonable enquiries. The engineer should then provide designers or contractors who may be bidding for, or preparing to carry out construction work on site, with such parts of the pre-construction information that are relevant to each.

4 Where design work continues during the construction phase, the Pre-Design information will need to be provided to designers before work starts on each new element of the design. Similarly, where sub-contractors are appointed during the construction phase, each sub-contractor (or those who are bidding for the work) must be provided with the Pre-Construction

information in time for them to take this into account when preparing their bid, or preparing for work on the site.

5 Clients may already have all, or much of the information needed. However, where there are gaps in this information, the client shall ensure that these are filled by commissioning surveys or by making other reasonable enquiries. Where no existing information is available from the Client, designers shall identify and commission relevant surveys to enable them to complete their design and prepare preconstruction information that will be used to inform preparation and planning for construction. The information shall consist of relevant CDM information of anyone affected by the design over the project life cycle.

6 The pre-construction information provided should be sufficient to ensure that significant risks during the work can be anticipated and planned for. It should concentrate on those issues that designers and contractors could not reasonably be expected to anticipate or identify, and not on obvious hazards such as the likelihood that the project would involve work at height.

7 The information needs to be integrated within the technical documents in a form that is convenient, i.e. clear, concise and easily understood. Brief notes on 'as built' drawings are particularly useful, but should be checked in case significant alterations have been carried out.

1.1.8.5.11 Client Duty in Relation to Welfare arrangements

1 Clients shall ensure that there is sufficient land to enable implementation of welfare facilities proportionate to the scale of the project and cater fully for the workforce requirements and the nature of their work

2 Clients do not have to provide welfare facilities for construction workers, but if there are particular constraints which make it difficult for facilities to be provided, the client should co-operate with contractors and assist them with their arrangements.

1.1.8.5.12 Client Duty in Relation to Appointment of the Contractor

3 Clients must appoint one competent, adequately resourced Contractor (Main Contractor) to plan, execute, manage and monitor the construction work taking into consideration CDM compliance. The appointment needs to be made in writing.

4 The Contractor's key CDM duties is to co-ordinate and manage the construction phase to ensure CDM compliance and the health and safety of everybody carrying out construction work, or who is affected by the work.

5 The Contractor must be appointed as soon as the client knows enough about the project to select a suitable contractor. Early appointment allows the contractor and other specialists, for example maintenance contractors and facilities management experts to make a substantial contribution to ensuring the building CDM Issues and maintainability of the structure under construction. This helps to eliminate and reduce risks, and to avoid interruptions, delays and other problems, which can add significantly to the costs of a project.

6 Early appointment is essential for the Contractor to have sufficient time to develop an adequate Construction Phase Plan and to arrange for appropriate resources, including welfare facilities, to be available when work commences on site. (Ensuring that welfare facilities are provided when work starts on site is a specific duty of the Contractor, but the Client also has a duty to make sure that the Contractor has done so). Contractors should be told as part of the pre-construction information the minimum amount of time which they will be given for planning and preparation before the construction work is expected to start on site.

7 There can only be one Contractor (the main Contractor of construction works and having authority and control of the construction site) at any one time. To ensure continuity, Clients should normally keep the same contractor for the whole project from site clearance and

preparation to final completion. However, there may be exceptions, for example where:

(a) preliminary works, for example involving demolition or site preparation work, where there is a substantial delay between site clearance and the start of new construction work;

(b) separate projects for different clients, for example for a building shell and subsequent fitting-out work

(c) In these cases, any change in contractor should:

(d) be clear to, and agreed by all those involved, particularly in relation to the timing of the change;

(e) be clearly recorded;

(f) provide the practical authority to enable the contractor to discharge his duties

1.1.8.5.13 Control of Start of Construction Works

1 Before construction work begins clients must check to ensure that suitable welfare facilities have been provided, and that the construction phase plan has been prepared by the contractor. With the help of the engineer, clients must ensure that the plan is project-specific and suitable.

1.1.8.5.14 What clients don't have to do

1 Clients are not required or expected to:

(a) plan or manage construction projects themselves; or

(b) specify how work must be done, for example requiring a structure to be demolished by hand. Indeed, they should not do so unless they have the expertise to assess the various options and risks involved. (They should, of course, point out particular risks that would inform this decision.)

(c) provide welfare facilities for those carrying out construction work (though they should co-operate with the contractor to assist with his arrangements);

(d) visit the site (to supervise or check construction work standards) but it is good practice for the client to appoint someone to ensure the contents of the Construction Phase (H&S) Plan is being complied with. This may be in the form of an appointed H&S advisor / consultant and / or the Engineer which may assist in the resolution of any onsite design issues.

1.1.8.6 The Engineer

1.1.8.6.1 Appointment of an Engineer

1 The role of engineer may be filled by an organisation such as the PMCM or by a professional practice such as an architect's or engineering practice with the relevant competence (individual competence and experience) and the duties under CDM being fulfilled through each subject matter expert within their work and assisted by a CDM focal point.

2 The more complex the project and hence the more construction disciplines involved, the less likely it is that the role of engineer can be satisfactorily carried out by a single person.

3 The selection of a competent engineer should be based upon the complexity of the work and the range of knowledge required.

1.1.8.6.2 Duties of the Engineer

1 The Engineer shall:

(a) Ensure compliance with respect to the CDM Design duties

(b) Ensure compliance with respect to the CDM Construction and Site Specific duties

(c) Ensure technical quality of all project deliverables (for example carry out tenderability reviews, checking technical quality of documents, correctness and adequacy, their fitness for purpose, gaps, integration and coordination of subject matters) as part of the CDM review

(d) Assist the Client in defining the CDM strategy

(i) give suitable and sufficient advice and assistance to enable the client to comply with the client's CDM duties under these Regulations, in particular with regard to:

(ii) taking reasonable steps to ensure that the necessary arrangements are made for manaing CDM Issues

(iii) the start of the construction phase as outlined previously in the client's duties

(e) ensure that suitable early arrangements are made and implemented for the co-ordination of CDM during the planning and preparation phases of the project with regard to:

(f) co-operation and co-ordination between all parties working on the project

(g) the implementation of the general principles of prevention

(h) take all reasonable steps to identify and collect pre-design information for the project and include it in procurement documents if for a design bid built project where the designer would be procurement to execute design and Pre-Construction Information for a design and build project where a design and build Contractor would be appointed

2 The Engineer's responsibility in respect of design work only extends to CDM aspects of the design – checking that the requirements of the designers duties have been addressed and that the different design elements work together without causing danger. This is best achieved through design reviews during which CDM Issues are addressed alongside practicality and cost in a wider review of the design's building safety issues, maintainability and usability.

3 When considering building safety issues, meetings should where possible include the contractor(s) so that difficulties associated with construction can be discussed and solutions agreed before the work begins. When discussing usability and maintainability, involving the client or those who will be responsible for operating the building or structure will mean that proper consideration can be given to the health and safety of those who will maintain and use the structure once it has been completed. Doing this during the design stage will result in significant cost savings for the client, as rectifying mistakes after the structure has been built is always expensive.

4 As part of design reviews, engineers need to ensure that the designers have identified a safe method for construction for unusual or complex designs, and that the designs include the information needed by other designers and contractors to allow them to work safely and without risk to health. This information needs to be clear and concise.

5 The timing of the reviews also needs careful consideration. Design needs to be far enough

developed for people to have a clear view of what is in mind, but not so far developed that it is too late to modify the proposals, if necessary. Design is an iterative process so it may need review at several different stages. The effort devoted to design review should be in proportion to the risks and complexity.

6 Engineers who identify important CDM Issues that have not been addressed in the design must draw them to the attention of the designer.

1.1.8.6.3 What Engineers should do

1 An engineer should:

(a) give suitable and sufficient advice and assistance to clients in order to help them to comply with their duties, in particular:

(i) the duty to appoint competent designers and contractors; and

(ii) the duty to ensure that adequate arrangements are in place for managing the project;

(b) co-ordinate design work, planning and other preparation for construction where relevant to health and safety;

(c) identify and ensure collection of the pre-construction information and advise the client if surveys need to be commissioned to fill significant gaps;

(d) promptly provide in a convenient form to those involved with the design of the structure; and to every contractor (including the contractor) who may

(e) be or has been appointed by the client, such parts of the pre-construction information which are relevant to each;

(f) manage the flow of health and safety information between clients, designers

(g) and contractors;

(h) advise the client on the suitability of the initial construction phase plan and the arrangements made to ensure that welfare facilities are on site from the start;

(i) produce or update a relevant, user friendly, health and safety file suitable for future use at the end of the construction phase.

1.1.8.6.4 Advising the client on competency of designers and contractors

1 Clients are responsible for appointing competent and adequately resourced designers and contractors. A competent engineer will have the knowledge and expertise to assist clients with these assessments.

1.1.8.6.5 Managing information flow

1 Co-operation and co-ordination can only be achieved if there is good communication between all parties involved in a particular aspect of a project. During planning stages the engineer needs to make sure that there are appropriate systems in place to encourage communication and the sharing of relevant information, and engineers should manage the flow of information between the team members. They may need to convene special meetings if they are not satisfied there is sufficient co-operation between designers or with other team members, or if adequate regard is not being given to health and safety. It is, however, better for these issues to be addressed in routine project meetings.

1.1.8.6.6 Providing information

1 Clients must provide designers and contractors who may be bidding for the work (or who they intend to engage), with the project-specific health and safety information needed to identify hazards and risks associated with the design and construction work. (The pre-construction information). Clients are required to provide this information to the engineer. The engineer should check the information to ensure that it is complete, advise the client if there are any significant gaps or defects, and ensure these are filled by commissioning surveys or by making other reasonable enquiries. The engineer should then provide designers or contractors who may be bidding for, or preparing to carry out construction work on site, with such parts of the pre-construction information that are relevant to each.

1.1.8.6.7 Advising the client on adequacy of management arrangements

1 Clients must make sure that there are suitable (project-specific) arrangements for managing each project so that the work can be carried out safely and without risk to health. Most clients, particularly those who only occasionally commission construction work, will not be experts in the construction process. These Regulations do not require clients to take an active role in managing the work, but they do require clients to take reasonable steps to ensure that suitable management arrangements are in place throughout the life of the project.

2 The engineer should assist with the development of these arrangements, and should advise clients on whether or not the arrangements are adequate. They should assist the client with decisions about how much time a contractor will need to prepare before construction work begins. When advising and assisting the client, the following issues should be considered.

(a) Is the client aware of their duties and do they understand what is expected of them?

(b) Has the client prepared relevant information about the site?

(c) Have the necessary appointments been made?

(d) Is there an established project team who meet regularly to discuss and co-ordinate activities in relation to the project?

(e) Are project team members clear about their roles and responsibilities?

(f) Are there arrangements in place for co-ordinating design work and reviewing the design to ensure that designer's duties are being addressed?

(g) Are there arrangements in place for dealing with late changes to the design, and for co-operating with contractors, so that problems are shared?

(h) Has the contractor been given enough time to plan and prepare for the work, and mobilise for the start of the construction phase?

(i) Has the contractor made arrangements for providing welfare facilities on site from the outset, and have they prepared a construction phase plan that addresses the main risks during the early stages of construction?

(j) Are there suitable arrangements for developing the plan to cover risks that arise as the work progresses?

(k) Has the format for the health and safety file been agreed, and are arrangements in place for collecting the information which it will contain?

(l) Has the contractor put in place suitable arrangements for consulting with workers on site; for carrying out site induction and for ensuring that workers are adequately trained and supervised?

3 Not all of these questions will need answers at the start of the project, and the arrangements will need to evolve as the project develops. The key thing is to plan ahead

so that arrangements are in place before the risks that need managing materialise on site.

1.1.8.6.8 Co-ordinating design work: Design reviews

1 The engineers responsibility in respect of design work only extends to health and safety aspects of the design – checking that the requirements of the designers duties have been addressed and that the different design elements work together without causing danger. This is best achieved through design reviews during which health and safety issues are addressed alongside practicality and cost in a wider review of the design's building safety issues, maintainability and usability.

2 When considering building safety issues, meetings should where possible include the contractor(s) so that difficulties associated with construction can be discussed and solutions agreed before the work begins. When discussing usability and maintainability, involving the client or those who will be responsible for operating the building or structure will mean that proper consideration can be given to the health and safety of those who will maintain and use the structure once it has been completed. Doing this during the design stage will result in significant cost savings for the client, as rectifying mistakes after the structure has been built is always expensive.

3 As part of design reviews, engineers need to ensure that the designers have identified a safe method for construction for unusual or complex designs, and that the designs include the information needed by other designers and contractors to allow them to work safely and without risk to health. This information needs to be clear and concise.

4 The timing of the reviews also needs careful consideration. Design needs to be far enough developed for people to have a clear view of what is in mind, but not so far developed that it is too late to modify the proposals, if necessary. Design is an iterative process so it may need review at several different stages. The effort devoted to design review should be in proportion to the risks and complexity.

5 Engineers who identify important health and safety issues that have not been addressed in the design must draw them to the attention of the designer.

1.1.8.6.9 The Engineer and the construction phase

1 Design often continues throughout a project and engineers have a continuing role during the construction phase – ensuring that designers, including those engaged by a contractor and contractors who carry out design work themselves, co-operate with each other, and designs meet the requirements of these Regulations. Where design changes and decisions during the construction phase have significant health and safety implications, engineers should liaise with the contractor about any implications for the construction phase plan.

2 The design of temporary works, such as falsework, formwork and scaffolding, falls within the scope of CDM. Engineers have to take reasonable steps to ensure co-operation between permanent and temporary works designers, in particular to ensure that arrangements are in place to ensure that designs are compatible and that the permanent works can support any loadings from temporary works.

3 Engineers need to pay particular attention to late designs or late changes to designs. Examples would be revisions on architects' instructions, when clients require changes or when unforeseen problems are encountered on site. The engineer should make sure that there are arrangements in place to ensure that such changes do not result in significantly increased risks on site.

1.1.8.6.10 What Engineers don't have to do

1 Engineers don't have to:

(a) approve the appointment of designers, contractors, although they normally advise clients about competence and resources;

(b) approve or check designs, although they have to be satisfied that the design process addresses the need to eliminate hazards and control risks;

(c) approve the contractor's construction phase plan, although they have to be able to advise clients on its adequacy at the start of construction;

(d) supervise the contractor's implementation of the construction phase plan - this is the responsibility of the contractor; or

(e) supervise or monitor construction work – this is the responsibility of the contractor.

1.1.8.6.11 The health and safety file

1 Engineers must prepare a suitable health and safety file. It is important that they discuss this with the client before work starts on site so that the format can be agreed, along with who should provide what information and when. This requires the co-operation of several duty holders, so engineers need to make sure that designers and contractors know, early on in the project, what information they will need to provide

2 The health and safety file ('the file') is a source of information that will help to reduce the risks and costs involved in future construction work, including cleaning, maintenance, alterations, refurbishment and demolition. Clients therefore need to ensure that the file is prepared and kept available for inspection in the event of such work. It is a key part of the information, which the client, or the client's successor, must pass on to anyone preparing or carrying out work to which CDM applies.

3 Clients may need to provide incentives or include requirements in contracts to ensure that the information is given to the engineer immediately after relevant design or construction work is completed. At the end of a project the engineer should give the completed file to the client for safekeeping.

1.1.8.6.12 The contents of the health and safety file

1 When putting together the health and safety file, you should consider including information about each of the following where they are relevant to the health and safety of any future construction work. The level of detail should allow the likely risks to be identified and addressed by those carrying out the work:

(a) a brief description of the work carried out;

(b) any residual hazards which remain and how they have been dealt with (for example surveys or other information concerning asbestos; contaminated land; water bearing strata; buried services etc);

(c) key structural principles (for example, bracing, sources of substantial stored energy – including pre- or post-tensioned members) and safe working loads for floors and roofs, particularly where these may preclude placing scaffolding or heavy machinery there;

(d) hazardous materials used (for example lead paint; pesticides; special coatings which should not be burnt off etc);

(e) information regarding the removal or dismantling of installed plant and equipment (for example any special arrangements for lifting, order or other special instructions for dismantling etc);

(f) health and safety information about equipment provided for cleaning or maintaining the structure;

(g) the nature, location and markings of significant services, including underground cables; gas supply equipment; fire-fighting services etc;

(h) information and as-built drawings of the structure, its plant and equipment (for example, the means of safe access to and from service voids, fire doors and compartmentalisation etc).

2 The file should be useful to:

(a) clients, who have a duty to provide information about their premises to those who carry out work there;

(b) designers during the development of further designs or alterations;

(c) engineers preparing for construction work;

(d) contractors and sub-contractors preparing to carry out or manage such work.

3 The file should form a key part of the information that the client, or the client's successor, is required to provide for future construction projects. The file should therefore be kept up to date after any relevant work or surveys.

4 The scope, structure and format for the file should be agreed between the client and engineer **at the start of a project.** There can be a separate file for each structure, one for an entire project or site, or one for a group of related structures.

1.1.8.6.13 What you must do

1 Clients, designers, contractors, other sub-contractors and engineers all have duties in respect of the health and safety file:

(a) Engineers must prepare, review, amend or add to the file as the project progresses, and give it to the client at the end of project;

(b) clients, designers, contractors and other sub-contractors must supply the information necessary for compiling or updating the file;

(c) clients must keep the file to assist with future construction work; and

(d) everyone providing information should make sure that it is accurate, and provided promptly.

2 The client should make sure that the engineer compiles the file. In some cases, for example design and build contracts, it is more practical for the contractor to obtain the information needed for the file from the specialist contractors. In these circumstances the contractor can assemble the information and give it to the engineer as the work is completed.

3 The file does **not** need to include things that will be of no help when planning future construction work, for example:

(a) the pre-construction information, or construction phase health and safety plan

(b) construction phase risk assessments, written systems of work and COSHH assessments

(c) details about the normal operation of the completed structure

(d) construction phase accident statistics

(e) details of all the contractors and designers involved in the project (though it may be useful to include details of the contractor and engineer)

(f) contractual documents

(i) information about structures, or parts of structures, that have been demolished unless there are any implications for remaining or future structures, e.g. voids

(ii) information in other documents, but relevant cross-references should be included.

1.1.8.6.14 Storing the file after the work is complete

1 To be useful the file needs to be kept up to date, and retained for as long as it is relevant – normally the lifetime of the structure. It may be kept electronically (with suitable backup arrangements), on paper, on film, or any other durable form.

2 Where clients dispose of their entire interest in a structure, they should pass the file to the new owners and ensure that they are aware of the nature and purpose of the file. Where they sell part of a structure, any relevant information in the file should be passed or copied to the new owner.

1.1.8.7 Design General

1.1.8.7.1 General

1 Designs develop from initial concepts through to a detailed specification, often involving different teams and people at various stages. At each stage, designers from all disciplines can make a significant contribution by identifying and eliminating hazards, and reducing likely risks from hazards where elimination is not possible.

2 Designers' earliest decisions fundamentally affect the constructability, logistics and safety of construction work. These decisions influence later design choices, and considerable work may be required if it is necessary to unravel earlier decisions. It is therefore vital to address CDM from the very start at the project definition phase.

3 Designers have duties regardless of whether the client is a domestic or non-domestic Client.

4 Designers are in a unique position at an early stage of a project to reduce the potential risks that could arise during the construction phase or at a later stage such as during maintenance of the completed structure.

5 Historically, risks were created at the design stage as a result of an attitude by some designers that it 'is someone else's problem to build/clean/maintain' the structure once it has been designed. CDM is emphatically not trying to stifle creative design, but merely ensuring that the practicalities of carrying out any of the above activities are considered during the design process.

6 Designers' responsibilities extend beyond the construction phase of a project. They also need to consider those who will maintain, repair, clean, refurbish and eventually remove or demolish all or part of a structure as well as the health and safety of users of workplaces. For most designers, building safety issue considerations and ensuring that the structure can be easily maintained and repaired will be part of their normal work, and thinking about the health and safety of those who do this work should not be an onerous duty. Failure to address these issues adequately at the design stage will usually increase running costs, because clients will then be faced with more costly solutions when repairs and maintenance become necessary.

7 Designers and all those involved with design have duties regardless of whether the client is at work or is a domestic client.

8 In discharging their duties, the designer shall in conjunction with their duties stipulated therein these regulations, take into account project hazard management, assumptions, issues management, interfaces and coordination issues.

1.1.8.7.2 Preparing a design

1 Designers have to weigh many factors as they prepare their designs. CDM considerations have to be integrated within the design and weighed alongside other considerations, including cost, fitness for purpose, functionality, aesthetics, building safety issues, maintainability and environmental impact.

2 Designers should critically assess their design proposals at an early stage, and then throughout the design process, to ensure that CDM Issues are identified, integrated into the overall design process and addressed as they go along. It is pointless to complete the design first, then try to address the risks which the design has introduced. By then, all of the key decisions are likely to have been taken and no one will be willing to make any changes because of the time and cost involved.

3 CDM imposes designers to take make informed decisions about the project life cycle performance through good design and engineering. These Regulations require designers to weigh the various factors and reach reasoned, professional decisions. Design deliverables at each stage of design shall include a chapter on CDM compliance for each subject matter.

4 Designers shall produce document of good Technical Quality that are complete and correct (if any gaps, this needs to be clearly documented to inform the next project stages), are fit for purpose, integration and coordination of subject matters and issues and aligned with the requirements of the CDM regulations at each stage of design submission.

5 Designers are required to avoid foreseeable risks ‘so far as is reasonably practicable, taking due account of other relevant design considerations’. The greater the risk level, the greater the weight that must be given to eliminating or reducing it to ALARP. Designers are not expected to consider or address risks which cannot be foreseen, and these Regulations do not require zero risk designs because this is simply impossible. However, designers must not produce designs that are difficult and unsafe to constructed, maintained, used or demolished within reasonable limits of logistics, environmental protection and safety.

1.1.8.7.3 Design Obligations and Designer Duties

1 All those involved in the project design shall comply with the following:

1.1.8.7.4 Start of Design Works

1 No designer shall commence work in relation to a project unless any client for the project is aware of his duties under these Regulations and not carry out detailed design work until the appointment of the Engineer is confirmed.

1.1.8.7.5 Competence

2 Designers shall:

(a) Confirm their Competence in writing to the Client

(b) make sure that they are competent and adequately resourced to address CDM Issues likely to be involved in the design

1.1.8.7.6 Communicate, Cooperate and Coordinate

1 Designers shall communicate, cooperate and coordinate with:

(a) Any other designers (including the principal designer) so that all designs are compatible and risk during the project life cycle are considered and managed to ALARP

(b) All contractors (including the main contractor), to take account of their knowledge and experience into the designs

(c) The end user to take account of their knowledge and experience to ensure maximised opportunities for operational readiness and the project in use.

(d) All other duty holders on the project

(e) All other stakeholders by implementing suitable interface management strategies

2 Designers must co-operate with the client, and other designers and contractors, including those designing temporary works. This is to ensure that incompatibilities between designs are identified and resolved as early as possible, and that the right information is provided in the pre-construction information.

3 For smaller projects where most of the work is done by a single designer, this can be achieved through discussion with those who use or are affected by the design. For larger projects or those involving significant risks, a more managed approach will be necessary.

4 Co-operation can be implemented as a minimum by the following:

(a) setting up an integrated team involving designers and contractor

(b) the appointment of a lead designer, where many designers are involved

(c) agreeing a common approach to risk reduction during design;

(d) regular meetings of all the design team (including the engineer) with contractors, and others;

(e) regular reviews of developing designs;

(f) site visits, through which designers can gain a direct insight into how the risks are managed in practice

5 Regular reviews of the design involving all members of the design team are particularly important in making sure that proper consideration is given to building safety issues, usability and maintainability. When considering building safety issues, meetings should include the contractor so that difficulties associated with construction can be discussed and solutions agreed before the work begins. When discussing usability and maintainability, involving the client or those who will be responsible for operating the building or structure will mean that proper consideration can be given all CDM Issues including the health and safety of those who will maintain and use the structure once it has been completed. Doing this during the design stage will result in significant cost savings for the client, as rectifying mistakes after the structure has been built is always expensive.

1.1.8.7.7 Taking account of the general Principles of Prevention in Design

1 These Regulations require that:

(a) Every person involved on a construction project, in relation to its planning, design and design management shall take account of the general principles of prevention

in the performance of those design duties.

(b) Every person involved on a construction project, in relation to the design of temporary works and its management of a project shall ensure so far as is reasonably practicable that the general principles of prevention are applied in the performance of those duties and carrying out of the construction work

1.1.8.7.8 Applying the Principles of Prevention in Design

1 The Principles of Prevention is the hierarchy of control to hazards and associated risks that are to be consistently applied through the project design development and shall be focused on the following:

(a) Identify hazards impacting the project;

(b) Eliminate the hazard;

(c) If elimination of the hazard is not possible, identify all risks associated with it and all interfaces impacted

(d) Evaluate each risks

(e) Combat each risk at source; starting with elimination of the risk

(f) If elimination of the risk is not possible, reduce the impacts, e.g. by specifying construction techniques; replacing the dangerous by the non-dangerous or the less dangerous; specify cautionary requirements with regards to constructability challenges, etc.

(g) Inform those affected, in particular the Contractor in time by communicating the nature of the issues and the design proposal and precautions to be taken

2 Repeat steps (a) to (g) above for 'In-use'

3 Repeat the above for maintenance

4 Repeat the above for end of service life per structure and systems.

1.1.8.7.9 Basic Principles of Constructability

1 Designers shall first consider external factors such as soil condition, access and storage at the site, logistics challenges, availability of resources, skills and technology, sequence of operations etc. to inform design about the most appropriate system to be used as follows:

(a) **Standardisation:** The repetition of grids, sizes of components and connection details. For example a repeated grid layout will facilitate faster construction irrespective of whether formwork or precast components are used. Similarly, columns or external claddings of repeated sizes will reduce the number of mould changes whether on-site or in the factory. The following components including the dimensions as specified, where applicable, are mandated by design:

(i) Welded mesh for cast-in-situ concrete floor

(ii) Prefabricated and pre-insulated duct for air-conditioning system

(iii) Standard storey heights for buildings

(b) **Simplicity:** De-risking dangerous design and construction focusing on uncomplicated building construction systems and installation details by design. A flat plate system, for example, eases formwork construction as well as reinforcement work considerably. Use of precast components reduces many trade operations on site and should improve site productivity provided the principles of standardisation are observed.

(c) **Integrated elements**: Synchronisation of combine related components together into a federated single element that may be prefabricated in the factory and subsequently installed on site. Prefabricated bleachers for sports facilities with integrated grill and handrail fixation, bathroom units for buildings are good examples.

1.1.8.7.10 Managing information flow

1 Designers shall co-operate and co-ordinate their work through defined communication systems by the Engineer, to foster sharing of relevant information and reviews amongst the team members.

2 Designers shall inform the Engineer if the arrangements for the above is not adequate

3 Special meetings shall be convened if there is sufficient co-operation between designers or with other team members, or if adequate regard is not being given to CDM. It is required that CDM is a routine topic in project meetings.

4 Designers must take all reasonable steps to provide sufficient information about the aspects of the design or its construction or maintenance to adequately assist the following to comply with their duties:

(a) The client;

(b) The Engineer;

(c) Other designers;

(d) Contractors;

(e) Sub-contractors;

(f) Other consultant/interfacing organisations identified as relevant

5 Having completed their design, designers are obliged to pass on information about the residual hazards and associated risks that they have not been able to design out to the next stage of the project. This shall be included in the procurement documents of subsequent construction works.

6 In line with the above relevant maintenance information shall be prepared and passed on to the CDM Engineer who shall prepare the information as part of the integrated information system for the End user.

7 Where significant risks remain when they have done what they can, designers should provide information with the design to ensure that the engineer, other designers and contractors are aware of these risks and can take account of them. A convenient form would be through CDM report, Hazard register and notes on drawings

8 Designers shall co-operate with the Engineer, Contractor and with any other designers or contractors as necessary for each of them to comply with their duties. This includes providing any information needed for the pre-construction information.

9 Once the Engineer has been appointed, the designer will need to co-operate with them and provide the information which the Engineer needs to comply with their duties.

1.1.8.7.11 Life Cycle Considerations

1 Designers shall consider how their design will affect those who will interact with the structures of the project throughout its life. This shall be an important element of design

reviews by all designers and shall be coordinated by a common approach by the Lead Design Consultant.

2 The mechanism shall involve thinking about design solutions for CDM Issues that may occur as the project structures are built, commissioned, used, maintained, repaired, refurbished or modified, decommissioned, demolished or dismantled and disposed or recycled.

3 Every designer shall in preparing or modifying a design avoid foreseeable risks of those:

(a) Carrying out construction work which includes demolition or a complete demolition project;

(b) Liable to be affected by such construction work; for example customers or members of public

(c) Using a structure designed as a place of work

(d) Maintaining the permanent fixtures and fittings of a structure or systems; including cleaning any window, façade, ceiling, roof or any other parts of a structure or systems;

(e) Decommissioning / demolishing the project or parts of it at the end of its service life. Sufficient attention shall be given by design for end of service life issues, hazards, risks, interfaces and assumptions.

4 Where the structure will be used as a workplace, (for example factories, offices, schools, hospitals and any other structures which can be a place of work for end users including maintainers) the structure and system shall be properly engineered to allow safe maintenance of all systems, structures within the project.

1.1.8.7.12 Providing information

1 Designers must provide information that other project team members are likely to need to identify and manage the remaining risks. This should be project specific, and concentrate on significant risks which may not be obvious to those who use the design. For example, providing generic risk information about the prevention of falls is pointless, because competent contractors will already know what needs to be done, but if the design gives rise to a specific and unusual fall risk which may not be obvious to contractors, designers should provide information about this risk.

2 Designers also need to provide information about aspects of the design that could create significant risks during future construction work or maintenance. If in doubt about the level of information needed, the best way to find out is to ask those who will use it.

3 Significant risks are not necessarily those that involve the greatest risks, but those, including health risks that are:

(a) not likely to be obvious to a competent contractor or other designers;

(b) unusual; or

(c) likely to be difficult to manage effectively

4 Information should be brief, clear, precise, and in a form suitable for the users. This can be achieved using:

(a) Notes on drawings – this is preferred, since the notes will then be immediately available to those carrying out the work. They can refer to other documents if more detail is needed, and be annotated to keep them up to date;

(b) Written information provided with the design - this should be project specific, and should only contain information which will be useful to those constructing or

maintaining the structure;

(c) Suggested construction sequences showing how the design could be erected safely, where this is not obvious, for example suggested sequences for putting up pre-cast panel concrete structures. Contractors may then adopt this method or develop their own approach.

5 It is not always possible to provide all the information at the same time, particularly when design work is continuing whilst construction work is underway. In these circumstances information should be released as the design develops, but construction work should not be allowed to proceed unless all the information necessary for the work to be carried out safely has been provided.

1.1.8.7.13 Workplace requirements

1 The regulations require that designers shall pay more attention to human wellbeing and safety throughout performance of the project life cycle.

2 Designers shall adopt a safe design approach as part of designing the layout and configuration of a workplace taken into account of all those who are going to interact with their design throughout its lifetime, including considerations for end users and maintainers.

3 Designers shall design for healthy workplaces feature with abundance of natural light, good air quality, and acoustics.

4 In spite of the debilitating ramifications unhealthy and unsafe workplaces pose, designers fail to understand the importance of wellbeing and safety at work, including maintainers of building and importantly infrastructures and other built assets of the environment. For example at least 30 percent of new and remodeled buildings around the world are subject to excessive complaints regarding indoor air quality. Poor indoor air quality has been shown to cause significant health and comfort issues for occupants, and yet little focus is given to this ongoing problem. Thus designers shall be capable to demonstrate that their design address both concerns.

5 Other examples include:

(a) Designing the layout of a building so that noisy machinery is isolated from workstations

(b) Elimination of cool air blowing directly on work stations

(c) Designing workplace space and layout to facilitate use of mechanical aids to prevent musculoskeletal disorders

(d) In the health industry, considering the suitability of ward rooms for both patients (possibly wheelchair-dependant) and staff (for example, the workspace should not impede safe access to the bed or chair)

(e) Designing storage cupboards whilst taking into consideration the functionality (eg location, what will be stored, layout, height, and doors)

(f) Accommodation of equipment (for example, where equipment such as photocopiers and printers are used, there is a need to accommodate the equipment to allow for additional traffic and general activity)

(g) Consideration the layout of workstations and plant in relation to the building or structure and other factors (e.g. the environment in which plant may be used, ease of access to operator controls, and the impact of fixed plant if located in close proximity to other plant).

(h) Elimination of sick building syndrome.

1.1.8.7.14 Co-ordinating design work: Design reviews

1 The designer shall assess and confirm in design reviews that different design subject matters work well together without causing danger. This shall be achieved through design reviews during which CDM Issues are addressed alongside practicality and cost in a wider review of the design's building safety issues, maintainability and usability.

2 When considering construction CDM Issues, meetings shall include the contractor(s) so that difficulties associated with construction can be discussed and solutions agreed before the work begins. When discussing usability and maintainability, involving the client or those who will be responsible for operating the building or structure will mean that proper consideration can be given to those who will maintain and use the structure once it has been completed. Doing this during the design stage will result in significant cost savings for the client, as rectifying mistakes after the structure has been built is always expensive.

3 As part of design reviews, designers shall review their designs and deliverables against each of the 'Design Obligations and Designer Duties' as stipulated herein.

1.1.8.7.15 Design Deliverables

1 Each stage of design submission shall include CDM deliverables as part of each subject matter submission.

2 They can then be summarised as into a main CDM report, capturing all the CDM Issues and the Design CDM Compliance

1.1.8.7.16 Compliance Declaration

1 Designers shall confirm that their designs (and any design changes) have taken account of the requirements of their designer's duties, and that the different design elements will work together in a way which does not create risks to the performance of the project and safety of those constructing, using or maintaining the project or parts of it. This shall be confirmed, in the form of a declaration by the designers for each design stage.

1.1.8.7.17 Who are designers?

1 Designers are those who have a trade or a business which involves them in:

(a) preparing designs for construction work, including variations. This includes preparing drawings, design details, specifications, bills of quantities and the specification (or prohibition) of articles and substances, as well as all the related analysis, calculations, and preparatory work; or

(b) arranging for their employees or other people under their control to prepare designs relating to a structure or part of a structure

2 It does not matter whether the design is recorded (for example on paper or a computer) or not (for example it is only communicated orally).

3 Designers therefore include:

(a) architects, civil and structural engineers, building surveyors, landscape architects, other consultants, manufacturers and design practices (of whatever discipline) contributing to, or having overall responsibility for, any part of the design, for example drainage engineers designing the drainage for a new development;

(b) anyone who specifies or alters a design, or who specifies the use of a particular method of work or material, such as a design manager, quantity surveyor who insists on specific material or a client who stipulates a particular layout or material for a new structure;

(c) building service designers, engineering practices or others designing plant which forms part of the permanent structure (including lifts, heating, ventilation and electrical systems), for example a specialist provider of permanent fire extinguishing installations;

(d) those purchasing materials where the choice has been left open, for example those purchasing building blocks and so deciding the weights that bricklayers must handle;

(e) contractors carrying out design work as part of their contribution to a project, such as an engineering contractor providing design, procurement and construction management services;

(f) temporary works engineers, including those designing auxiliary structures, such as formwork, falsework, façade retention schemes, scaffolding, and sheet piling;

(g) interior designers who also develop the design;

(h) those determining how buildings and structures are altered, for example during refurbishment, where this has the potential for partial or complete collapse

4 Manufacturers supplying standardised products that can be used in any project are not designers under CDM. The person who selects the product is a designer and must take account of CDM Issues arising from its use. If a product is purpose-made for a project, the person who prepares the specification is a designer under CDM, and so is the manufacturer who develops the detailed design.

1.1.8.7.18 When do these duties apply?

1 These duties apply whenever designs are prepared which may be used in construction work in Qatar. This includes concept design and relevant work carried out as part of feasibility studies.

1.1.8.7.19 Making clients aware of their responsibilities

1 Designers are often the first point of contact for a client, and CDM requires them to check that clients are aware of their duties under these Regulations.

1.1.8.7.20 Upon appointment

1 Upon appointment, designers shall prepare a CDM Design Management Plan setting out the planning and management arrangements of how CDM compliance will be achieved.

1.1.8.7.21 What designers don't have to do

1 Under CDM, designers don't have to:

(a) take into account or provide information about unforeseeable hazards and risks;

(b) design for possible future uses of structures that cannot reasonably be anticipated from their design brief;

(c) specify construction methods, except where the design assumes or requires a particular construction or erection sequence, or where a competent contractor might need such information;

(d) exercise any health and safety management function over contractors or others; or

(e) worry about trivial risks.

2 Designers are not required to keep records of the process through which they achieve a safe design, but it can be useful to record why certain key decisions were made. Brief records of the points considered, the conclusions reached, and the basis for those

conclusions, can be very helpful when designs are passed from one designer to another. This will reduce the likelihood of important decisions being reversed by those who may not fully understand the implications of doing so.

3 Too much paperwork is as bad as too little, because the useless hides the necessary. Large volumes of paperwork listing generic hazards and risks, most of which are well known to contractors and others who use the design are positively harmful, and suggest a lack of competence on the part of the designer.

1.1.8.7.22 CDM Construction

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2 Early appointment of the Engineer is crucial for effective planning and establishing management arrangements from the start. These regulations require the appointment to take place as soon as is practicable after initial design work or other preparation for construction work has begun.

1.1.8.7.23 Co-operation

1 Every duty holder and all those involved in planning and construction of a project shall seek the co-operation of all those involved, whether on the same or an adjoining site which has an impact on the project or on which the project will have an impact on.

2 So far as it is necessary for all persons involved in the project(s) to comply with their duties or functions under these Regulations in relation to risk management with special regards to impacts on safety of operations, site specific safety issues, design safety issues and the health of those impacted thereon.

3 Every person involved in a project, who is working under the control of another person, must shall inform that person of anything believed to endanger the health or safety of himself or others.

4 Common examples of co-operation are:

(a) one contractor allowing the workforce of another company to use their scaffold to enable work at height to be carried out safely

(b) site management on one site allowing oversailing by a tower crane on an adjacent site

(c) Designers of a project providing residual hazard and safety information to another designer on an interfacing project.

1.1.8.7.24 Co-ordination

1 These Regulations require that every duty holder involved in a project co-ordinates their activities with the activities with one another in a manner which ensure so far as is reasonably practicable the health and safety of persons who are:

(a) carrying out construction work; and

(b) otherwise affected by the construction work

2 There are many examples of where the various contractors involved in a project can co-ordinate their work activities, agreeing who works where and when so that construction work runs smoothly and without the risks created by one set of workers endangering the health and safety of other workers.

3 All construction projects require co-operation and co-ordination between all members of the project team. For low risk projects, a low-key approach will be sufficient. In higher risk

projects, for example those involving demolition, a more rigorous approach to co-ordination, co-operation and planning will be needed. Under the Regulations, any action taken should be in proportion to the risk which the work creates. The architect, lead designer or contractor who is carrying out the bulk of the design work should normally co-ordinate the health and safety aspects of the design work; the main Contractor should co-ordinate construction work.

4 It is vital that those doing the work understand the risks involved and what to do about them. If the risks are low and the precautions well understood by those carrying out the work, then there will be no need for a written health and safety plan. Where the risks are higher, a written comprehensive construction phase health and safety plan will be required. for example where the work involves:

(a) structural alterations;

(b) deep excavations, and those in unstable or contaminated ground;

(c) unusual working methods or safeguards;

(d) ionizing radiation or other significant health hazards;

(e) nearby high voltage power lines;

(f) a risk of falling into water which is, or may become, fast flowing;

(g) diving;

(h) explosives;

(i) heavy or complex lifting operations;

(j) demolition works

5 A comprehensive construction phase health and safety plan will be required.

1.1.8.7.25 Taking account of the general Principles of Prevention in Construction

1 These Regulations require that:

(a) Every person involved on a construction project, in relation to works planning, works design and design management shall take account of the general principles of prevention in the performance of those duties.

(b) Every person involved on a construction project, in relation to the construction phase of a project shall ensure so far as is reasonably practicable that the general principles of prevention are applied in the carrying out of the construction work

1.1.8.7.26 Applying the Principles of Prevention in Construction

1 When considering what precautions are necessary to control risks associated with a project, everyone who has a duty under these Regulations must take account of the general principles of prevention specified below:

(a) avoiding risks;

(b) evaluating the risks which cannot be avoided;

(c) combating the risks at source;

(d) adapting the work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health;

(e) adapting to technical progress;

(f) replacing the dangerous by the non-dangerous or the less dangerous;

(g) developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the working environment;

(h) giving collective protective measures priority over individual protective measures; and giving appropriate instructions to employees.

1.1.8.8 Contractor

1.1.8.8.1 General

1 Under these Regulations, the duties of the contractor are to:

plan, manage and monitor construction work to ensure so far as is reasonably practicable that it is carried out without risks to health and safety, including ensuring:

(a) that there is adequate co-operation and co-ordination between all parties involved in the project

(b) that the general principles of prevention are applied

(c) liaise with the engineer with regard to ensuring the co-operation between designers during the construction phase

(d) ensure that adequate welfare facilities are provided in accordance with Appendix 1

(e) where necessary in the interests of health and safety, draw up site rules which are appropriate to the site and the activities that will be carried out on it

(f) give reasonable directions to sub- contractors to enable the contractor to fulfil their duties under these Regulations

(g) ensure that all sub-contractors are informed of the minimum amount of time that will be allowed to them for planning and preparation, before their construction work starts

(h) where necessary, consult with sub-contractors before finalising the parts of the construction phase plan that are relevant to the work to be undertaken by each sub-contractor

(i) ensure that before each sub-contractor's work begins, the sub-contractor is given sufficient time to access the parts of the health and safety plan that are relevant to the sub-contractor's work and that the relevant parts of the plan contain sufficient detail for the sub-contractor's needs

(j) ensure that before each contractor's work begins, the contractor is given sufficient time to enable them to prepare such information as they need with regard to:

(k) the prompt provision of welfare facilities

(l) carrying out their work without risks to health and safety so far as is reasonably practicable

(m) identify to each sub-contractor the information needed by the engineer for the Hazard file and to ensure that the information is promptly provided

(n) take reasonable steps to prevent unauthorised access to the site

(o) take all reasonable steps to ensure that all workers are provided with a suitable site induction and other information and training as may be necessary

(p) This allows the management of health and safety and environmental protection to be incorporated into the wider management of project delivery.

1.1.8.8.2 Co-operation and co-ordination

1 Good co-operation and co-ordination of work between all of the parties involved in a project is essential if risks are to be identified early on and properly controlled. Contractors should take the lead and actively encourage co-operation and co-ordination between sub-contractors from an early stage. A team approach involving the client, designers, contractors and even manufacturers who work closely together will often produce the best results. This allows the client, designers, contractors and facilities management experts, together, to identify the best solution for the client's needs, taking account of the practicalities of construction work, maintenance and use. Even on projects where it is not practical to formally establish an integrated team, the client, designer, contractors and others involved in the project still need to work together.

2 If there are other projects on the same or neighbouring sites then the co-operation and co-ordination needs to extend to those involved with such projects. If this need can be identified early on, the risks that one project may cause for the other can also be identified and addressed in the early stages of project planning. If potential problems are not identified until the actual work has started they can be much more difficult to address.

3 Good, timely communication is essential to co-operation and co-ordination of activities. Information about risks and precautions needs to be shared sensibly (i.e. relevant information, not everything) when it is needed to plan and manage work. Drawings can be used to highlight hazards or unusual work sequences identified by designers, with advice on where to find more information, if required. Induction training and toolbox talks help to ensure workers understand the risks and precautions, and are a good opportunity to inform workers of site rules or any special risks relating to the project.

1.1.8.8.3 How many Contractors can there be for each project?

1 There can only be one main contractor for a project at any one time. However, sometimes two or more projects take place on a site at the same time. This can occur if different clients commission adjacent work, or if a client procures two truly independent, unrelated packages of work which do not rely upon one another for their viability or completion.

2 Where overlapping projects are running on a single construction site, it is best to appoint one Contractor for them all. If this is not done, all the contractors must co-operate, and their plans must take account of the interfaces – for example in traffic management.

1.1.8.8.4 Planning and managing of works in the construction phase

1 Contractors must plan, manage and co-ordinate work during the construction phase taking account of the information contained in the pre-construction information provided by the client, and any other information provided by sub- contractors.

2 The effort devoted to planning and managing should be in proportion to the risks and complexity associated with the project.

3 The Contractor should work with other sub-contractors to identify the hazards and assess the risks related to their work, including the risks they may create for others. Using this information and applying the general principles of prevention the Contractor, in discussion with the sub-contractors involved, must plan, manage and co-ordinate the construction phase. This includes supervising and monitoring work to ensure that it is done safely and that it is safe for new activities to begin.

4 Where the project involves high-risk work, for example alterations that could result in structural collapse, work on contaminated land, specialist advice is likely to be needed at the planning stage.

1.1.8.8.5 The Construction Phase Plan

1 The way in which the construction phase will be managed and the key logistics, health and safety issues for the particular project must be set out in writing in the construction phase plan. This plan should set out the organisation and arrangements that have been put in place to manage risk and co-ordinate the work on site. It should not be a repository for detailed generic risk assessments, records of how decisions were reached or detailed method statements, but it may, for example set out when such documents will need to be prepared. It should be well focused, clear and easy for sub-contractors and others to understand – emphasising key points and avoiding irrelevant material. It is crucial that all relevant parties are involved and co-operate in the development and implementation of the plan as work progresses.

1.1.8.8.6 The Plan must be specific for each Project

1 Generic plans that do not contain the information relevant to the particular risks associated with the work will not satisfy the requirements of CDM. Photographs and sketches can greatly simplify and shorten explanations. It should also be organised so that relevant sections can easily be made available to designers and sub-contractors.

2 Often the design and preparation for later work is not complete at the start of the construction phase. Nevertheless, the plan for the initial phase of the construction work must be prepared before any work begins. It should also address later activities that will require careful planning. It may only be practical to address such activities in outline form before work starts and most will require revision in the light of developments.

1.1.8.8.7 Implementing and monitoring the plan

1 A plan is no use if it is treated as merely a paper exercise and gathers dust. To improve Qatar standards, it must be a practical aid to the management of health and safety on site. Contractors and other sub-contractors have a particular role in both implementing and monitoring the plan to ensure that it works in practice. Monitoring arrangements will need to be discussed and agreed with the client as they form part of the management arrangements.

2 The purpose of monitoring is to ensure that the precautions described in the construction phase plan are appropriate and followed in practice. Where contractors do not work safely or comply with the plan, Contractors must take appropriate action to deal with the risk.

3 The contractor is responsible for ensuring the health and safety of everyone on site. Everyone on site (including the client, anyone working for the client and workers of utility companies) must co-operate with the contractor to enable them to comply with their duties.

4 The plan needs to be routinely reviewed, revised and refined by the contractor as the project develops. For example, where the plan is not being followed, and health and safety is put at risk, those involved must take appropriate action to deal with the risk. Monitoring may show the plan has shortcomings and needs to be modified. Any significant changes in the plan should be brought to the attention of all those affected.

1.1.8.8.8 Site rules

1 Contractors should include any necessary rules for the management of construction work in the construction phase plan, which others on the site have to follow. These may cover issues such as restricted areas, permit-to-work systems, hot work and emergency plans. In order to avoid cluttering the plan with detailed arrangements for implementing site rules, the plan should refer to other documents or put detailed arrangements in appendices. Site rules should be:

set out in writing;

(a) understandable to those who have to follow them;

(b) brought to the attention of everyone who has to follow them;

(c) enforced by the Contractor

2 Copies of the site rules should be displayed on site in a place where they can be seen by those who work there.

1.1.8.8.9 Controlling access onto sites

1 A contractor must take reasonable steps to prevent access by unauthorised persons to the construction site. Only people who are explicitly authorised, individually or collectively, by the contractor, should be allowed access. The authorisation may cover the whole site or be restricted to certain areas. Authorised people should have relevant site rules explained to them and undertake any necessary site induction, and should comply with site rules and co-operate with the contractor. Some authorised visitors may need to be supervised or accompanied while on site or visiting specific areas.

2 How access is controlled depends on the nature of the project, the risks and location. The boundaries of all sites should be physically defined, where necessary, by suitable fencing. The type of fencing should reflect the nature of the site and its surroundings. Special consideration is needed where:

(a) rights of way cross sites;

(b) sites are in, or next to, other work areas;

(c) new houses are being built on a development where some houses are already occupied; or

(d) there are children or other vulnerable people nearby.

3 The effectiveness of the arrangements needs to be reviewed in the light of experience. In particular, their adequacy should be carefully reviewed if there is evidence of children playing on, or near the site.

1.1.8.8.10 Site induction, training and information

1 Site induction, training and information are vital to securing health and safety on site. The Contractor has to ensure, so far as is reasonably practicable, that every worker has:

(a) a suitable induction; and

(b) any further information and training needed for the particular work.

2 This does not mean that the contractor has to train everyone on the site - this will be the responsibility of individual sub-contractors.

1.1.8.8.11 Induction

1 Inductions are a way of providing workers with specific information about the particular risks associated with the site and the arrangements that have been made for their control. Induction is not intended to provide general health and safety training, but it should include a site-specific explanation of the following:

(a) senior management commitment to health and safety

(b) the outline of the project

(c) the individual's immediate line manager and any other key personnel

(d) any site-specific health and safety risks, for example in relation to access, transport, site contamination, hazardous substances and manual handling

(e) Control measures on the site, including;

(i) any site rules,

(ii) any permit-to-work systems,

(iii) traffic routes,

(iv) security arrangements,

(v) hearing protection zones,

(vi) arrangements for personal protective equipment, including what is needed, where to find it and how to use it,

(vii) arrangements for housekeeping and materials storage,

(viii) facilities available, including welfare facilities,

(ix) emergency procedures, including fire precautions, the action to take in the event of a fire, escape routes, assembly points, responsible people and the safe use of any fire-fighting equipment;

(f) arrangements for first aid

(g) arrangements for reporting accidents and other incidents

(h) details of any planned training, such as 'toolbox' talks

(i) arrangements for consulting and involving workers in health and safety, including the identity and role of any:

(i) safety representatives,

(ii) safety committees;

(j) information about the individual's responsibilities for health and safety.

1.1.8.9 Sub-Contractor

1.1.8.9.1 General

1 Sub-contractors and those actually doing the construction work are most at risk of injury and ill health. They have a key role to play, in co-operation with the contractor, in planning and managing the work to ensure that risks are properly controlled.

2 All sub-contractors (including utilities, specialist contractors, contractors nominated by the client and the self-employed) have a part to play in ensuring that the site is a safe and healthy place to work. The key to this is the proper co-ordination of the work, underpinned by good communication and co-operation between all those involved.

3 Anyone who directly employs, engages construction workers or controls or manages construction work related tasks is a sub-contractor for the purposes of these Regulations. This includes companies that use their own workforce to do construction work on their own premises. The duties on contractors apply whether the workers are employees or self-employed and to agency workers without distinction.

1.1.8.9.2 What sub-contractors must do on all projects

1 For all projects sub-contractors must:

(a) check clients are aware of their duties;

(b) satisfy themselves that they and anyone they employ or engage are competent and

adequately resourced;

(c) plan, manage and monitor their OWN work to make sure that workers under their control are safe from the start of their work on site;

(d) ensure that any sub-contractor who they appoint or engage to work on the project is informed of the minimum amount of time which will be allowed for them to plan and prepare before starting work on site;

(e) provide workers under their control (whether employed or self-employed) with any necessary information, including about relevant aspects of other contractors' work, and site induction (where not provided by a contractor) which they need to work safely, to report problems or to respond appropriately in an emergency;

(f) ensure that any design work they do complies with these Regulations

(g) co-operate with others and co-ordinate their work with others working on the project;

(h) ensure the workforce is properly consulted on matters affecting their health and safety; and

(i) obtain specialist advice (for example from a structural engineer or occupational hygienist) where necessary when planning high-risk work – for example alterations that could result in structural collapse or work on contaminated land or carrying out modification works on an existing structure.

1.1.8.9.3 Planning and managing construction work

1 Sub-contractors should always plan, manage, supervise and monitor their own work and that of their workers to ensure that it is carried out safely and that health risks are also addressed. The effort invested in this should reflect the risk involved and the experience and track record of the workers involved. Where sub-contractors identify unsafe practices, they must take appropriate action to safeguard, all health and safety issues and preservation of the environment.

1.1.8.9.4 Site induction, information and training

1 Contractors must not start work on a construction site until they have been provided with basic information. This should include information from the client about any particular risks associated with the project (including information about existing structures where these are to be demolished or structurally altered), and from designers about any significant risks associated with the design.

2 Sub-contractors must ensure, so far as is reasonably practicable, that every worker has:

(a) a suitable induction; and

(b) any further information and training needed for the particular work

3 Site induction should be provided by the contractor, and the sub-contractor must co-operate with the contractor to ensure that an adequate site induction is provided.

4 Where sub-contractors are involved in design work, including for temporary works, they also have duties as designers.

5 Sub- contractors must also:

(a) co-operate with the contractor, the Engineer and others working on the project or adjacent sites;

(b) inform the contractor about risks to others created by their work;

(c) provide details to the contractor of any supply chain or specialist sub-contractor whom he engages in connection with carrying out the work;

(d) comply with any reasonable directions from the main contractor, and with any relevant rules in the construction phase plan;

(e) inform the contractor of any problems with the plan or risks identified during their work that have significant implications for the management of the project;

(f) inform the contractor about accidents and dangerous occurrences;

(g) provide information for the Hazard File

1.1.8.9.5 Reporting incidents

1 The Reporting of Injuries, Diseases and Dangerous Occurrences (RIDDOR) requires the 'responsible person' to notify any death, reportable injury, disease or dangerous occurrence to the Qatar Administrative Authority. The responsible person is the employer or, for the self-employed, the contractor.

2 Sub-contractors must co-operate with the contractor, and assist them in the development of the construction phase plan and its implementation. Where sub-contractors identify shortcomings in the plan, the contractor should inform the contractor.

3 Sub-contractors must promptly inform the contractor about risks to other site workers or members of the public resulting from their work. This includes anything, for example from risk assessments and written systems of work, which might justify a review or update of the construction phase plan. Sub-contractors must also provide details to the contractor of any other sub-contractors who they engage to assist in the carrying out of the work. Contractors must be in a position to know who is working on the site. Contractors also have duties relating to the provision of information to sub-contractors, and they will not be in a position to discharge these duties if they are not told that such sub-contractors have been engaged.

4 Sub-contractors must also provide information about RIDDOR incidents to contractors so that they can monitor compliance with health and safety standards and, if necessary, review the arrangements for the management of health and safety

1.1.8.9.6 Workers Health and Safety

1 All those in control of construction work are required to provide workers (including the self-employed) under their control with any information that worker needs to carry out the construction work safely and without risk to health.

2 All workers should be provided with a suitable site-specific induction to inform them of the arrangements for health, safety and welfare at their work site. This should include any relevant findings resulting from a risk assessment, including risks arising from the activities of other workers working nearby. If contractors have site rules these should be explained, along with the procedures to be followed in the event of any worker finding themselves in a position of serious and imminent danger.

3 Contractors must communicate to their workers the identity of the person who is responsible for implementing health and safety procedures on site.

4 To ensure involvement of the entire workforce, contractors may need to make special arrangements for workers who have little or no understanding of Arabic and or English, or who cannot read Arabic and or English. These could include providing translation, using interpreters or replacing written notices with clearly understood symbols or diagrams.

5 Arrangements for worker engagement on smaller sites should always be tailored to the size and nature of the project and risks involved. On smaller sites informal arrangements for collecting workers' views can be effective. An effective way of achieving this is to arrange reviews of method statements immediately before the work itself is being carried

out. Those workers who will be involved in the work can then comment directly on the risks and the ways in which these are being controlled.

1.1.8.9.7 Workers Duties

1 Every worker has a duty under CDM to report anything, which is likely to endanger the health and safety of himself or others.

1.1.8.9.8 Workers must:

1 Workers must:

(a) Be consulted about matters which affect their health, safety and welfare. This shall be implemented by the Main Contractor

(b) Take care of their own health and safety, and of others who might be affected by their actions

(c) Report anything they see which is likely to endanger either their own or others' health and safety

(d) Cooperate with their employer, fellow workers, contractors and other duty holders

1.1.8.9.9 Worker engagement and communication

1 Involving the workforce in identifying and controlling risks is crucial to reducing the high accident rate associated with construction work. The workforce has first-hand experience of site conditions and is often the first to identify potential problems. Worker engagement is the participation by workers in decisions made by those in control of construction activities, in order that risks on site can be managed in the most effective way.

2 Participation will be most effective when the workforce has sufficient knowledge and confidence to provide feedback, and can identify risks and explain their importance. People have the confidence to do this when they are properly trained, know how to report their concerns, and see prompt action being taken as a result. Training should include, where necessary, the skills required to participate in decision-making processes, and consultation with managers.

1.1.8.9.10 Worker representatives

1 Employers must consult their workers on matters relating to their health and safety. This can often be done most effectively through worker representatives

1.1.8.10 Site Specific Duties

1.1.8.10.1 General

2 Every contractor and subcontractor carrying out construction work shall comply with the regulatory requirements of this section insofar as they affect him or any person carrying out construction work under his control or relate to matters within his control.

3 Every person (other than a contractor carrying out construction work) who controls the way in which any construction work is carried out by a person at work shall comply with the regulatory requirements under this section insofar as they relate to matters which are within his control.

4 Every person at work on construction work under the control of another person shall report to that person any defect which he is aware may endanger the health and safety of himself

or another person.

1.1.8.10.2 Safe places of work

1 There must be, so far as is reasonably practicable, safe access to and egress from a place of work and to any other place provided for the use of any person at work. Such means of access must be properly maintained.

2 Places of work must, so far as is reasonably practicable, be maintained without risk to health or safety of the person(s) who will work there.

3 Suitable and sufficient steps must be taken to ensure, so far as is reasonably practicable, that no-one gains access to any place which does not comply with the requirements of these Regulations

4 Every place of work must, so far as is reasonably practicable, be of sufficient size and be arranged so that it is suitable for any person who has to work there, taking account of any work equipment used.

1.1.8.10.3 Good order (Housekeeping)

1 Every part of a construction site shall, so far as is reasonably practicable, be kept in good order and every part of the site which is used as a place of work shall be kept in a reasonable state of cleanliness.

2 Where it is necessary in the interests of health and safety, the perimeter of the site shall be identified by suitable signs so that the arrangements and extent of the site is readily identifiable, or fenced off, or both.

3 No timber or other material with projecting nails or other similar sharp objects shall be used in any work or be allowed to remain in any place where the nails will be a source of danger to any person.

4 Every part of a construction site shall, so far as is reasonably practicable, be kept in good order and every part of the site which is used as a place of work shall be kept in a reasonable state of cleanliness.

5 Where it is necessary in the interests of health and safety, the perimeter of the site shall be identified by suitable signs so that the arrangements and extent of the site is readily identifiable, or fenced off, or both.

6 No timber or other material with projecting nails or other similar sharp objects shall be used in any work or be allowed to remain in any place where the nails will be a source of danger to any person.

1.1.8.10.4 Stability of structures

1 All practicable steps must be taken to ensure that any structure or part of a structure which may become unstable or weak due to construction work does not collapse.

2 Any buttress, temporary support or temporary structure:

(a) must be installed and maintained to withstand any strains and stresses that may be imposed on it

(b) only be used for the purposes for which it was designed, installed and maintained.

3 No part of a structure may be loaded in such a way that it becomes unsafe.

4 The client is responsible for providing reasonable information, and issues relating to the stability of the structure would fit into that category.

1.1.8.10.5 Demolition or dismantling

1 The demolition or dismantling of any structure must be planned and carried out in such a way as to prevent danger, or reduce the danger so far as it is reasonably practicable to do so.

2 Demolition or dismantling must not be carried out unless the arrangements for ensuring that is carried out in a safe manner have first been recorded in writing.

3 The demolition or dismantling of any structure must be planned and carried out as safely as possible, under the supervision of a competent person. Demolishing buildings and structures remains high risk work.

4 It will normally be impossible for the contractor to comply with these Regulations without reports such as an asbestos survey, information on underground services and structural surveys.

1.1.8.10.6 Explosives

1 So far as is reasonably practicable, explosives must be stored, transported and used safely and securely.

2 Explosives may only be used when steps have been taken to ensure that there is no danger from the explosion, projected or flying materials.

3 Any blasting would categorically be considered high risk work and a written method statement required.

1.1.8.10.7 Excavations

1 All practicable steps, such as the provision of supports or battering, must be taken where necessary to prevent danger to any person, to ensure that:

(a) no part of an excavation collapses

(b) any accidental fall or dislodgement of material is prevented

(c) no person is buried or trapped by the fall or dislodgement of any material.

2 Suitable and sufficient steps must be taken to prevent the fall of any person, equipment or material into the excavation.

3 Suitable and sufficient steps must be taken to prevent, where necessary, any part of an excavation or ground adjacent to it from being overloaded by work equipment or material.

4 Work must not be carried out in any excavation where supports or battering have been provided, unless:

(a) the excavation and any equipment and materials which affect its safety have been inspected by a competent person.

(b) the person who inspected it is satisfied that work can be carried out in it safely.

5 Work must not be carried out in any excavation if an inspection reveals any defect rendering the excavation unsafe, until that defect has been rectified.

(a) The decision as to whether or not to install shoring must be made with regard to the circumstances prevailing at the time. Suitable and sufficient steps must be taken to

prevent any person working in an excavation from becoming trapped or buried by a fall of materials.

6 Excavations must be supported as soon as possible by the provision of sufficient and suitable materials. Such supports must only be installed, altered or dismantled under the supervision of a competent person and without the person(s) installing the supports being put at risk.

1.1.8.10.8 Cofferdams and caissons

1 Every cofferdam or caisson must be:

(a) of suitable design and construction and have sufficient strength and capacity for the purpose for which it is being used

(b) equipped to enable workers to gain shelter or escape, if water or materials should enter it

(c) properly maintained.

2 Work must not be carried out in any cofferdam or caisson unless:

(a) it and any work equipment or materials which affect its safety have been inspected:

(i) before any person carries out any work at the start of every shift, and

(ii) after any event likely to affect the strength or stability of the cofferdam or caisson or any part of it

(a) the person who inspected it is satisfied that work can be carried out in it safely.

3 Work must not be carried out in any cofferdam or caisson if any inspection reveals any defect rendering the cofferdam or caisson unsafe, until that defect has been rectified.

1.1.8.10.9 Reports of inspections

1 Where a statutory inspection of an excavation, cofferdam or caisson has been carried out, the person carrying out the inspection must, before the end of the shift during which the inspection was carried out:

(a) inform the person for whom the inspection was carried out of any matter that renders the excavation or caisson unsafe as a place of work

(b) prepare a written report.

2 Note: The report must contain the particulars listed in Appendix 2.

3 The person who prepares the written report must provide a copy of the report within 24 hours to the person on whose behalf the inspection was carried out.

4 The employer Contractor of the person authorised to carry out inspections, or the person in control, must ensure that the inspections are only carried out by persons who are authorised to do so.

5 The report or a copy of it must be kept available for inspection by a Administrative Authority Workplace Inspector

(a) on the site until the project is completed, and thereafter

(b) for a period of three months (at the company offices)

6 No report of a cofferdam or caisson inspection is required if one has been written within the previous seven days.

1.1.8.10.10 Energy distribution installations

1 Where it is necessary to prevent danger, every energy distribution installation must be located, checked and clearly identified.

2 Where there is a risk from electric power cables, in order of priority, they must be;

(a) repositioned out of the area of risk, or

(b) made dead by cutting off the current, or

(c) where it is not reasonably practicable to carry out the above actions erect warning notices and:

(i) barriers, or

(ii) a suspended means of protection where vehicles have to pass beneath overhead cables, or

(iii) other measures which provide an equivalent or better level of protection.

3 Construction work must not be carried out where there is a risk of danger from damaging or disturbing underground services unless suitable and sufficient steps have been taken so far as is reasonably practicable.

4 Whilst electrical cables are specifically mentioned, the title indicates that the general requirement outlined in the first paragraph applies to all sources of energy, for example hydraulic and pneumatic distribution systems.

1.1.8.10.11 Prevention from drowning

1 Where any person is liable to drown from falling into water or any other liquid, suitable and sufficient steps must be taken to:

(a) prevent, so far as is reasonably practicable, a person falling

(b) minimise the risk of a person drowning in the event of a fall

(c) ensure that suitable rescue equipment is provided, maintained and properly used so that anyone who falls into the water may be promptly rescued.

2 Suitable and sufficient steps must be taken to ensure the safety of any person transported to their place of work by water.

3 Any vessel used to convey a person to or from a place of work, by water, must not be overcrowded or overloaded.

1.1.8.10.12 Traffic routes

1 Every construction site must, so far as is reasonably practicable, be organised in such a way that pedestrians and vehicles can move about safely and without risk to health.

2 Traffic routes must be suitable for persons or vehicles using them, sufficient in number, in suitable places and of sufficient size.

3 To be suitable, each traffic route must:

(a) enable pedestrians and vehicles to use it without causing danger to persons who are near it

(b) doors or gates used by pedestrians which lead into a traffic route must be adequately separated from that route so that pedestrians may see approaching vehicles

(c) provide sufficient separation between vehicles and pedestrians to ensure safety, or, where that is not reasonably practicable, provide:

(i) other means of protecting pedestrians and

(ii) an effective means of warning any at-risk pedestrian of the approach of any vehicle

(d) have at least one exit in any loading bay for the exclusive use of pedestrians

(e) provide one or more pedestrian-only gates, clearly marked and kept free of obstructions where it is unsafe for pedestrians to use a gate intended primarily for vehicles.

4 Traffic routes must be:

(a) identified by suitable signs, where necessary

(b) regularly checked and

(c) satisfactorily maintained.

5 No vehicle must be permitted to drive on a traffic route unless, so far as is reasonably practicable, the route is free from obstructions and permits sufficient clearance.

6 All traffic routes must be indicated where necessary.

1.1.8.10.13 Vehicles

1 Suitable and sufficient steps must be taken to prevent the unintended movement of any vehicle.

2 Suitable and sufficient steps must be taken to ensure that persons who are in control of vehicles give warning to other persons who may be endangered by the movement of the vehicle.

3 Any vehicle being used for construction work must be:

(a) driven, operated or towed in a safe manner

(b) loaded in such a way that it can be driven, operated or towed in a safe manner.

4 No person shall ride or be required to ride on any vehicle unless they are in a safe place that is purposely provided (i.e. the vehicle is designed to carry passengers).

5 No person may remain or be required to remain on any vehicle while it is being loaded or unloaded with any loose material unless a safe place of work is provided for them and maintained as necessary.

6 Suitable and sufficient steps must be taken to prevent the vehicle from falling into an excavation or pit, or into water, or over the edge of an embankment or earthwork.

1.1.8.10.14 Prevention of risk from fire

1 Suitable and sufficient steps must be taken to prevent, so far as is reasonably practicable, the risk of injury to any person during the carrying out of construction work arising from any fire or explosion, flooding, or any substance that is liable to cause asphyxiation.

1.1.8.10.15 Emergency procedures

1 Where necessary, in the interests of health and safety, suitable and sufficient arrangements must be prepared and, where necessary, implemented to deal with any foreseeable emergency, and such arrangements must include procedures for evacuation of the site, or any part of it.

2 When making these arrangements, account must be taken of:

(a) the type of work being carried out

(b) the characteristics and size of the site and the number of work locations on it

(c) the work equipment being used

(d) the number of persons likely to be present on the site at any one time

(e) the physical and chemical properties of any substances or materials likely to be on the site

3 Such arrangements must be communicated to all persons on site and tested at suitable intervals.

1.1.8.10.16 Emergency routes and exits

1 Sufficient emergency routes and exits must be provided to enable any person to quickly reach a place of safety in the event of danger.

2 Any emergency route or exit must lead directly, or as directly as possible, to an identified safe area.

3 Any emergency route or exit must be kept clear of obstructions and, where necessary, provided with emergency lighting so that it can be used safely at any time.

4 All emergency routes and exits must be indicated by suitable signs.

1.1.8.10.17 Fire detection and fire-fighting

1 Where necessary in the interests of health and safety, suitable fire-fighting equipment, together with fire alarms and fire detection systems, must be installed in suitable locations.

2 A fire risk assessment will be required for the site including storage areas, with particular emphasis on the storage highly flammable or explosive substances, and site welfare facilities.

3 Fire-fighting equipment and fire detection/alarm systems must be properly maintained and subjected to periodic tests and examination so as to ensure that the equipment remains effective.

4 Any fire-fighting equipment that is not designed to operate automatically must be easily accessible.

5 Every person at work on a construction site must, so far as is reasonably practicable, be instructed in the use of any fire-fighting equipment that it may be necessary for them to use.

6 Where any work activity gives rise to a particular risk of fire, no person shall be authorised to carry out such work unless that person has received suitable instructions.

7 All fire-fighting equipment must be indicated by suitable signs.

1.1.8.10.18 Fresh air

1 Suitable and sufficient steps must be taken to ensure, so far as is reasonably practicable, that every workplace or approach to it has sufficient fresh or purified air to ensure that the place or approach is safe and without risk to health.

2 Where plant is used for the purpose of providing fresh or purified air, it must be equipped with an effective device to give visible and audible warning of the failure of the plant.

1.1.8.10.19 Temperature and weather protection

1 Suitable and sufficient steps must be taken during working hours to ensure, so far as is practicable, that the temperature at any indoor place of work is reasonable, having regard for the purpose for which the place is being used.

2 Every place of work outdoors must, where necessary to ensure the health and safety of the people at work there, be arranged so far as is reasonably practicable, to provide adequate protection from adverse weather, having regard for the purpose for which the place is used and any protective clothing or work equipment provided.

1.1.8.10.20 Lighting

1 Every place of work, every approach to it and every traffic route must be provided with suitable and sufficient lighting. The lighting should, as far as is reasonably practicable, be natural lighting.

2 The colour of any artificial lighting must not adversely affect or change a perception of any sign or signal that is provided for the purposes of health and safety

3 Secondary or emergency lighting must be provided where there may be a risk to the health and safety of any person in the event of the failure of any primary artificial lighting

1.1.8.11 Competence Criteria

1.1.8.11.1 Competence and training

1 This section gives guidance about assessing the competence of organisations and individuals engaged or appointed under CDM – engineers; designers; contractors and sub-contractors.

2 Assessments should focus on the needs of the particular project and be proportionate to the risks, size and complexity of the work.

3 To be competent, an organisation or individual must have:

(a) sufficient knowledge of the specific tasks to be undertaken and the risks which the work will entail

(b) sufficient experience and ability to carry out their duties in relation to the project; to recognise their limitations and take appropriate action in order to prevent harm to those carrying out construction work, or those affected by the work.

4 Organisations and individuals will need specific knowledge about the tasks they will be expected to perform, and the risks associated with these tasks. This will usually come from formal or 'on the job' training.

5 Appropriate experience is also a vital ingredient of competence. People are more likely to adopt safe working practices if they understand the reasons why they are necessary, and

past experience should be a good indicator of the person's/ company's track record.

6 The development of competence is an ongoing process. Individuals will develop their competence through experience in the job and through training which is part of 'life-long learning'. Professionals such as designers, engineers and advisors should be signed up to a 'Continuing Professional Development' CPD programme either through their company or professional institution membership schemes. This will allow them to remain 'up to date' with changes in best and professional practice. Construction trades workers and labourers should also receive refresher training or regular training updates either through an in-house planned programme of learning and development, or a more formal skills-based training programme.

1.1.8.11.2 What you must do

1 All those with duties under CDM must satisfy themselves that businesses that they engage or appoint are competent. This means making reasonable enquiries to check that the organisation or individual is competent to do the relevant work and can allocate adequate resources to it. Those taken on to do the work must also be sure that they are competent to carry out the required tasks before agreeing to take on the work.

2 A key duty of the engineer is to advise clients about competence of designers and contractors.

3 Doing an assessment requires you to make a judgement as to whether the organisation or individual has the competence to carry out the work safely. If your judgement is reasonable, taking into account the evidence that has been asked for and provided, you will not be criticised if the organisation you appoint subsequently proves not to have been competent to carry out the work.

1.1.8.11.3 How to assess the competence of organisations

1 Competency assessments of organisations (including contractors, sub-contractors, designers and engineers) should be carried out as a two-stage process:

2 **Stage 1**: An assessment of the company's organisation and arrangements to determine whether these are sufficient to enable them to carry out their CDM obligations.

3 **Stage 2:** An assessment of the company's experience and track record to establish that it is capable of doing the work; it recognises its limitations and how these should be overcome and it appreciates the risks from doing the work and how these should be tackled.

4 In order to provide more consistency in the way in which competency assessments of companies are carried out, the Competence Chart with set 'core criteria' should be used to assess Design Consultants, Contractor and Sub-Contractors.

1.1.8.11.4 Competence chart

1 Core criteria for demonstration of competence for Contractors, Engineers and Designers organisations (as functions). You need to meet the standards set out in the core criteria table on the next page.

2 **Column 1** of the table lists the elements which should be assessed when establishing whether or not a company is competent for the work which they will be expected to do.

3 **Column 2** lists the standards against which the assessment should be made.

4 **Column 3** gives some examples of how a company might demonstrate that it meets these

standards.

5 Companies do not have to produce all of the evidence listed in column 3 to satisfy the standard - they simply need to produce enough evidence to show that they meet the standard in column 2, taking account of the nature of the project and the risks which the work entails. This requires you to make a judgement as to whether the evidence provided meets the standard to be achieved. If your judgement is reasonable, and clearly based on the evidence you have asked for and been provided with, you will not be criticised if the company you appoint subsequently proves not to be competent when carrying out the work.

6 Remember that assessments should focus on the needs of the particular project and should be proportionate to the risks arising from the work. Unnecessary bureaucracy associated with competency assessment obscures the real issues and diverts effort away from them.

7 Organisations who are bidding for work should put together a package of information that shows how their own policy, organisation and arrangements meet these standards. If regularly updated, this information should then be used each time they are asked to demonstrate competence as part of a tender process.

8 Where the project is much larger than any that the organisation being assessed has worked on before, or where the work will involve them managing new risks, this should not automatically rule them out for consideration for the work.

9 The assessor should look for an appreciation of these risks; an understanding of how they will be managed, and some indication of how any shortcomings in their current arrangements for managing such risks will be addressed.

10 It may be that an organisation is weak in certain areas. This can be addressed by putting arrangements in place to cover these weaknesses, or by employing people with particular expertise for relevant parts of the contract. What really matters is that the organisation has access to the expertise which it needs, and the ability to control the risks which arise from the work.

11 Remember that assessments should focus on the needs of the particular project and be proportionate to the risks, size and complexity of the work. Unnecessary bureaucracy associated with competency assessment can obscure the real issues and divert effort away from them.

1.1.8.11.5 How to assess the competence of High Hazard Activities

1 These regulations require clients to ensure that their proposed project engineers, designers, contractor and sub-contractors (including their employees) are competent, adequately resourced and appointed early enough for the work they have to do. In turn, these duty holders must assess their own competency and that of their employees and other duty holders (except in the case of a client where the test does not apply) as they cannot accept an appointment unless they are competent to do so.

2 In every case, a client must assess the competency of the organisations to be appointed for high hazard activities.

3 The client must assess the competence of an organisation using a two-stage process:

4 **Stage 1:** Procedures and arrangements for ensuring health and safety (a client should ask for evidence of written health and safety policies and these must in turn be checked for relevance); and

5 **Stage 2: Experience and track record.**

6 Organisations should provide information as to their competence with reference to the above when tendering for work. In the case of high specialist activities such as:

(a) Use of explosives

(b) Cofferdams and caissons

(c) Work in compressed air

(d) Tunnelling and underground works

7 Clients are required when reviewing competences of specialist contractors who are tendering for construction projects involving high hazard activities to appoint consultant health and safety advisers with specialist knowledge pursuant to the high hazard activities. The appointed consultants experience will aid the clients to discharge their responsibilities when reviewing duty holders tender and competence documentation.

8 The list of high hazard activities listed above is not definitive and when projects are out of the scope of their internal health and safety advisors capability, the appointment of an external consultant must take place to aid in establishing the competence of construction tendering contractors.

1.1.8.11.6 How to assess the competence of individuals

1 The information in this section will help clients, engineers or others who control the way in which construction work is carried out to assess the competence of key individuals.

2 Remember that assessments should focus on the needs of the particular job and should be proportionate to the risks arising from the work.

3 As with organisations, assessing the competence of an individual should be a two-stage process:

(a) **Stage 1:** An assessment of the person's task knowledge to determine whether this is sufficient to enable them to carry out the work safely and without risk to health;

(b) **Stage 2:** An assessment of the individual's experience and track record to establish that they are capable of doing the work; they recognise their limitations and how these should be overcome and they appreciate the risks from doing the work and how these should be controlled.

4 Stage 1 assessments will look at an individual's qualifications and training records, and arrangements which have been made for their Continuing Professional Development or lifelong learning. This will include an assessment as to whether the individual has a basic understanding of the risks arising from construction work which is essential for all people who work on or regularly visit sites. Specific regards shall be paid to Design and Construction separately.

5 Stage 2 assessments should concentrate on the person's past experience in the type of work which you are asking them to do. Where the work is more complex than any that the person has done before, or where the work will expose them to new risks, this should not automatically rule them out for consideration for the work. In these circumstances, the assessor should look for an appreciation of these risks; an understanding of how they will be managed, and some indication of how any shortcomings in their current knowledge will be addressed. Working under the supervision of someone who is competent and familiar with the work is one way in which people can learn how to do work safely.

	Criteria	Standard to be achieved	Examples of the evidence that you could use to demonstrate you meet the required standard
	Stage 1 assessment		
1	CDM Compliance Policy	You are expected to have and implement an appropriate policy, regularly reviewed, and signed off by the managing director or equivalent. The policy must be relevant to the nature and scale of your work and set out the responsibilities for health and safety management at all levels within the organisation.	A signed, current copy of the company policy (indicating when it was last reviewed and by whose authority it is published).
2	Arrangements	These should set out the arrangements for CDM management within the organisation and should be relevant to the nature and scale of your work. They should set out how the company will discharge their duties under CDM. There should be a clear indication of how these arrangements are communicated to the workforce.	A clear explanation of the arrangements which the company has made for putting its policy into effect and for discharging its duties under CDM.
3	Competent advice – corporate design and construction related	Your organisation, and your employees, must have ready access to competent CDM advice, preferably from within your own organisation. The advisor must be able to provide general CDM advice, and also (from the same source or elsewhere) advice relating to construction issues.	Name and competency details of the source of advice, e.g. a trade federation, or consultant who provides CDM information and advice. An example from the last 12 months of advice given and action taken.

4	Training and information	You should have in place, and implement, training arrangements to ensure your employees have the skills and understanding necessary to discharge their duties as contractors, designers or Engineers. You should have in place a programme for refresher training, e.g. a continuing professional development programme or life long learning which will keep your employees updated on new developments and changes to legislation and good design, engineering and construction practice. This applies throughout the organisation - from board or equivalent to trainees.	Headline training records. Evidence of a CDM training culture including records, certificates of attendance. CDM training shall not be confused with H&S. CDM training can consist of industry pertinent safety issues, material performance issues, building performance, workplace designs, construction health and safety issues and other CDM Issues Evidence of an active learning programme. Sample 'tool box talks'.
5	Individual qualifications and experience	Employees are expected to have the appropriate qualifications and experience for the assigned tasks, unless they are under controlled and competent supervision.	Details of relevant qualifications and experience proportionate to the project scale, nature and complexities shall be provided. **FOR CONTRACTORS:** details of number/percentage of people engaged in the project that have passed a construction health and safety assessment and hold industry qualifications. For professionals, details of qualifications and/or professional institution membership. Evidence of a company-based training programme suitable for the work to be carried out.

5	Individual qualifications and experience (cont'd)		**FOR DESIGN ORGANISATIONS:** details of number/percentage of people engaged in the project who have passed a CDM related assessment Details of any relevant qualifications and/or professional institution membership and any other specific qualifications such as NEBOSH Construction Certificate or equivalent. **FOR ENGINEERS**: details of number/percentage of people engaged in the project who are CDM accredited. Evidence of CDM Working knowledge (not to be confused with HSE), CDM applications on large scale & complex projects and engineering qualifications coupled with NEBOSH Construction Certificate or equivalent. Details of engineering professional institution membership and any other specific qualifications. Evidence of a clear commitment to training and the continuing professional development of staff.
6	Monitoring, audit and review	You should have a system for monitoring your design and construction procedures, procurement procedures for both design and construction for auditing them at periodic intervals, and for reviewing them on an ongoing basis.	Could be through formal audit or discussions/reports to senior managers. Evidence of recent monitoring and management response. Copies of design audits Copies of site inspection reports with regards to work planning, sequencing, risk management, safe systems of work etc.

7	Workforce involvement (Construction)	You should have, and implement, an established means of consulting with your workforce on risks ad health and safety matters affecting their work	Evidence showing how consultation is carried out. Records of health and safety committees Names of safety representatives.
8	Accident reporting and enforcement action; follow up investigation	You should have records of all RIDDOR reportable events for at least the last three years. You should also have in place a system for reviewing all incidents, and recording the action taken as a result. You should record any enforcement action taken against your company over the last five years, and the action which you have taken to remedy matters subject to enforcement action.	Evidence showing the way in which you record and investigate accidents and incidents. Records of the last two accidents/incidents and the actions taken to prevent recurrence. Records of any enforcement action taken over the last five years, and what action was taken to put matters right. For larger companies, simple statistics showing incidence rates of major injuries, over three-day injuries, reportable cases of ill-health and dangerous occurrences for the last three years. Records should include any incidents that occurred whilst the company traded under a different name, and any incidents that occur to direct employees or Labour-only subcontractors.
9	Subcontracting/ consulting procedures (if applicable)	You should have arrangements in place for appointing competent design consultants and subcontractors You should be able to demonstrate how you ensure that subcontractors will also have arrangements for appointing competent subcontractors or consultants. You should have arrangements for monitoring design sub-consultant and subcontractor performance.	Evidence showing how you ensure design consultants are competent. Examples of assessments you have carried out. Evidence showing how you require similar standards of competence assessment from design consultants. Evidence showing how you monitor design sub-consultant performance As above but for sub-contractors

10	CDM issues- Hazard elimination and risk control, assumptions management, issues management, interfaces management **(Designers only)**	You should have, and implement, arrangements for meeting your duties under CDM Design	Evidence showing how you: • ensure co-operation and co-ordination of design work within the design team and with other designers/contractors • ensure that hazards are eliminated and any remaining risks controlled • Ensure that CDM Issues are addressed • Ensure suitable assumptions management • Ensure that workplace is taken into account by design Examples showing how CDM Issues are addresed through design. A short summary of how changes to designs will be managed. (Note: the emphasis here should be on practical measures which reduce particular risks arising from the design, not on lengthy procedural documentation highlighting generic risks.)
11	Risk assessment leading to a safe method of work **(Contractors only)**	You should have procedures in place for carrying out risk assessments and for developing and implementing safe systems of work/method statements.	Evidence showing how the company will identify significant health and safety risks and how they will be controlled. Sample risk assessments or safe systems of work or method statements.
		The identification of health issues is expected to feature prominently in this system.	This will depend upon the nature of the work, but must reflect the importance of this risk area.

12	Co-operating with others and co-ordinating your work with that of other contractors **(Contractors)**	You should be able to illustrate how co-operation and co-ordination of your work is achieved in practice, and how you involve the workforce in drawing up method statements/safe systems of work.	Evidence could include sample risk assessments, procedural arrangements, project team meeting notes. Evidence of how the company co-ordinates its work with other trades.
13	Welfare provision **(Contractors)**	You should be able to demonstrate how you will ensure that appropriate welfare facilities will be in place before people start work on site.	Evidence could include, for example, health and safety policy commitment; contracts with welfare facility providers; details of type of welfare facilities provided on previous projects.
14	Engineers duties	You should be able to demonstrate how you ensure CDM Design compliance. As above for CDM Construction Compliance.	The evidence should be in the form of actual examples rather than by generic procedures.

	Criteria	Standard to be achieved	Examples of the evidence that you could use to demonstrate you meet the required standard
	Stage 2 assessment		
1	Expertise and performance	You should give details of relevant expertise and performance in the field of work for which you are applying.	A simple record of recent projects of similar nature, scale and complexity shall be kept and provided in stage 2 evaluation. The records shall be verifiable For Designers: Records shall demonstrate CDM performance, design awards and design H&S achievements For Contractors: Records shall demonstrate safety records achieved over the last 5 years on projects of a similar scale and complexities. Where there are significant shortfalls in previous experience, or there are risks associated with the project which you have not managed before, an explanation of how these shortcomings will be overcome.

2	Approach and arrangements (design Consultants)	You shall give details of how you would approach the project design, planning and management taking into account project complexities, and coordination of engineering subject matters	Examples of design review approach Example of Principles of Prevention Examples of Safety by Design Examples of constructability reviews Examples of designing for the project life cycle
3	Approach and arrangements (design Consultants)	You shall give details of how you would approach the planning of works, sequencing of works, logistics considerations, management of risks	Examples of works planning and sequencing Example of managing logistics challenges Examples of development of risk assessment and safe systems of works Examples of co-ordination of works with sub-contractors Examples of managing temporary works

4	Risk management	You shall give details of the top design and construction risks that the project entails and how you will manage them	**Design:** Examples of top design issues and risks and their mitigation Examples of assumptions and their management Examples of interfaces management **Construction:** Examples of risk mitigation to the industry killer

1.1.8.12 **Worker engagement and communication**

1.1.8.12.1 General

1 Involving the workforce in identifying and controlling risks is crucial to reducing the high accident rate associated with construction work. The workforce has first-hand experience of site conditions and is often the first to identify potential problems. Worker engagement is the participation by workers in decisions made by those in control of construction activities, in order that risks on site can be managed in the most effective way.

2 Participation will be most effective when the workforce has sufficient knowledge and confidence to provide feedback, and can identify risks and explain their importance. People have the confidence to do this when they are properly trained, know how to report their concerns, and see prompt action being taken as a result. Training should include, where necessary, the skills required to participate in decision-making processes, and consultation with managers.

1.1.8.12.2 What you are required to do for all projects

Providing information

1 All those in control of construction work are required to provide workers (including the self-employed) under their control with any information that worker needs to carry out the construction work safely and without risk to health.

2 All workers should be provided with a suitable site-specific induction to inform them of the arrangements for health, safety and welfare at their work site. This should include any relevant findings resulting from a risk assessment, including risks arising from the activities of other workers working nearby. If contractors have site rules these should be explained, along with the procedures to be followed in the event of any worker finding themselves in a position of serious and imminent danger. Contractors must communicate to their workers the identity of the person who is responsible for implementing health and safety procedures on site. Every worker has a duty under CDM to report anything, which is likely to endanger the health and safety of himself or others.

3 To ensure involvement of the entire workforce, contractors may need to make special arrangements for workers who have little or no understanding of Arabic and or English, or who cannot read Arabic and or English. These could include providing translation, using interpreters or replacing written notices with clearly understood symbols or diagrams.

4 Arrangements for worker engagement on smaller sites should always be tailored to the size and nature of the project and risks involved. On smaller sites informal arrangements for collecting workers' views can be effective. An effective way of achieving this is to arrange reviews of method statements immediately before the work itself is being carried out. Those workers who will be involved in the work can then comment directly on the risks and the ways in which these are being controlled.

1.1.8.12.3 Worker representatives

1 Employers must consult their workers on matters relating to their health and safety. This can often be done most effectively through worker representatives.

1.1.8 Appendix 1

Requirements for Site Welfare Facilities

General

1 Air Conditioning is mandatory for all habitable buildings.

2 All windows, doors and ventilation openings in all habitable buildings shall be equipped with insect screens.

3 Sufficient illumination shall be provided in all areas.

4 Pest control measures shall be implemented in all site offices, mess areas, washing and sanitary facilities. Pest control measures will be appropriate to known/likely pests and carried out at a sufficient frequency to ensure pests are controlled. Pest control measures shall only be carried out by competent persons. Facilities shall not be used when hazardous pest control substances are being applied.

5 No smoking shall be allowed inside buildings. A dedicated shaded outdoor area shall be arranged for smoking.

6 All welfare facilities shall be located at convenient places.

Drinking Water

1 Cooled drinking water must be provided in site offices, mess areas, field rest shelters and at other suitable points based on a risk assessment that include type of work, temperature, ….

2 Drinking water shall be marked “drinking water” using the applicable languages required.

3 The Contractor shall ensure that the water is of ‘wholesome’ quality and free of all contaminants. The Contractor shall install water filters, chlorinators and disinfection units and ensure that water storage tanks are cleaned and maintained keeping full and detailed records of water standard and bacteriological results.

4 Sufficient cups or other drinking vessels must be provided, unless the water supply is in the form of a jet (drinking fountain) from which a person can easily drink.

Washing and Sanitary Facilities

1 Every site where anyone is employed for more than four consecutive hours shall have washing and sanitary facilities.

2 Washing facilities shall be adjacent to sanitary conveniences and to changing rooms, when changing rooms are provided.

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

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

5 The main contractor must provide a sufficient number of sanitary and washing facilities for all Workers, including the sub-contractors’, respecting the following ratios:
(a) Up to 25 Workers: 1 WC, 1 urinal, 1 washbasin.

(b) Between 26 and 100 Workers: 4 washbasins, 4 WC, 4 urinals plus 1 extra WC and urinal for every additional 50 Workers.
(c) For every additional 100 workers, one additional toilet, 2 additional urinals, and 1 additional washbasin.
(d) Where the Contractor employs females, sanitary facilities must include 1 separate WC and washbasin facilities for every 10 females.

6 Hot and cold water shall be available at all times.

7 Consumables such as hand soap, hand towels, and sunblock shall be available and replenished at a frequency in accordance with use.

8 Toilets must be partitioned from each other and have doors with fastenings. Urinals must be suitably screened.

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

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

Mess Areas

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

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

3 Mess areas shall be located away from works areas in separate buildings/structures wherever possible. Where it is not deemed possible, appropriate partitioning shall be erected to satisfy 2 above.

4 Mess areas shall be fitted out with tables and benches. The number of tables and benches should allow for every Worker to sit at a table while eating food. The size of the mess area shall be appropriate to one shift (a shift shall be no less than half an hour; time between 2 meals shall not exceed 5 to 7 hours; all workers shall take their lunch break within maximum 2 hours). No workers shall be forced to eat food on site or outside the defined mess area.

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

6 Cooking shall not be allowed in the site mess area. Should the Contractor require a full canteen with kitchen that is preparing hot food, a written proposal shall be submitted in advance to the Construction Manager. Canteens shall be subject to the food safety regulations applicable in Qatar.

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

8 Sufficient appliances and facilities must be provided to preserve and heat food.

Medical Facilities

1 The Contractor shall provide adequate and appropriate medical provisions based on the number and distribution of Workers in accordance with Supreme Council of Health (SCH) requirements and licences.

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

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

4 Where the number of Workers on site is over 100, the Contractor should provide an additional

First Aider.

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

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

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

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

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

6 All injuries more severe than first aid cases and medical emergencies shall be referred to the Client and the Ministry of Administrative, Labour, and Social Affairs.

7 First aid boxes shall be deployed on site. The size and content of first aid boxes shall be in line with the number of Workers in the work area.

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

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

Changing rooms and lockers

1 Suitable facilities must be provided or made available at readily accessible places if:

(a) the worker has to wear special clothing for the purposes of work, and,

(b) for reasons of health or personal privacy, changing cannot be carried out elsewhere.

2 Where necessary, in the interests of personal privacy, separate changing rooms for men and women must be provided.

3 Changing rooms must:

(a) be provided with seating

(b) include, where necessary, facilities to dry clothing and personal effects

(c) include, where necessary, lockable locker to ensure security of belongings:

(i) special clothing that is not taken home

(ii) a person's own clothing which is not worn at work

(iii) their personal effects (property).

Facilities for rest

1 Suitable and sufficient facilities for rest must be provided at readily accessible places. They must:

(a) be equipped with an adequate number of tables and adequate and comfortable seating (with backs)

(b) where necessary, include facilities for any pregnant woman and nursing mother to rest, lying down

(c) where necessary, include a means of boiling water and suitable arrangements to ensure that meals can be prepared and eaten

(d) be maintained at an appropriate temperature

2 An 'enclosed' workplace is one which has a roof or ceiling and, except for passageways, doors and windows, is wholly enclosed, whether on a temporary or permanent basis.

3 A 'substantially enclosed' workplace is one which has a roof or ceiling but there are permanent openings in the walls, the combined area of which is less than 50% of the total wall area. When calculating the total 'open area' of any workplace, doors and/or windows which can be closed must not be counted.

4 Rest facilities shall include prayer rooms where appropriate.

1.1.8 Appendix 2

Particulars to Be Included In A Report of Inspection

1 Name and address of the person on whose behalf the inspection was carried out.

2 Location of the place of work inspected.

3 Description of the place of work or part of that place inspected (including any work equipment and materials).

4 Date and time of the inspection.

5 Details of any matter identified that could give rise to a risk to the health or safety of any person.

6 Details of any action taken as a result of any matter identified in paragraph 5 above.

7 Details of any further action considered necessary.

8 Name and position of the person making report.

Occupational Health and Safety – Construction Site Safety

1.1.9 Safety Inspections and Auditing

1.1.9.1 Key points

1 Inspections of the workplace, from a health and safety point of view, can form a productive part of the consultation between management and the workforce.

2 There are several forms of workplace inspection described in this section.

3 While they are often carried out by a safety professional, they do not have to be.

4 The successful outcome of any inspection is that remedial actions are put in place where shortcomings have been identified.

5 Workplace inspections should be carried out against a predetermined checklist incorporating some method of recording the findings.

6 Whereas workplace inspections tend to be a 'snapshot in time', an audit is a thorough examination not only of the site conditions prevailing at any one time but also of:

(a) the commitment of management to health and safety;

(b) the procedures that underpin the health and safety management system.

Contractors being able to demonstrate their competence in matters of health and safety management potentially puts a greater importance on them being able to show that audits are carried out and acted upon.

Note: Section 1, Part 21 covers inspections and handovers.

1.1.9.2 Introduction

1 It is well-established and documented that accidents can be prevented by:

(a) identifying the hazards which employees face within the workplace

(b) understanding how accidents are caused by unsafe acts, unsafe systems of work and unsafe conditions on site

(c) taking steps to control the activity of the worker, the work method and the workplace.

2 Contractors, managers, supervisors and safety representatives all have equally important roles to play. By obtaining and providing information through the inspection, investigation and examination of the workplace, they can help provide a basis for effective management action to promote safer and healthier workplaces, and induce a greater awareness of health, safety and welfare on the part of all concerned.

1.1.9.3 Safety inspections

Regular and random inspections

1 Formal inspections shall be conducted at reasonably regular intervals should augment the site manager's day-to-day checks, inspections and examinations which occur as part of any job task. These should involve construction representatives as well as safety representatives using a properly designed safety checklist for a systematic inspection of the workplace.

2 An example of such a checklist can be found in Appendix 1.

3 The advantages of regular safety inspections are that they ensure that good housekeeping is maintained within the workplace and that awareness is developed, amongst employees at all levels, of the need to promote and maintain safety standards. The disadvantage or danger of

regular inspections is that they may become a rather mechanical routine for all concerned, and that their impact might be lessened.

4 Random inspections, shall also be carried out without any prior notice to the workforce, on different days of the week, at irregular intervals and at different times of the day, avoid the shortcomings of a predictable inspection and help to encourage a continuous interest in safety by all personnel.

5 In practice, a combination of the two approaches of both regular and random inspections is probably the best course of action.

1.1.9.4 Remedial actions

1 A clear understanding of what remedial actions are required to eliminate or less the risks to health and safety, and when those actions should be taken, is an essential part of health and safety management.

2 Findings of inspections shall be corrected within the timeframe set by the inspector.

3 The following lists suggest how shortcomings, as highlighted during health and safety inspections, should be prioritised for remedial action.

4 Items requiring immediate action:

(a) the contravention of this Regulatory Document

(b) the occurrence of accidents or incidents which produce situations of immediate danger to the health and safety of employees or other people, including members of the public

(c) the risk of financial liabilities, as a result of damage to plant and equipment, or compensation to workers or members of the public

(d) the risks of fire, explosion or other hazards involving electricity, toxic materials or substances

(e) the existence of unsafe working practices and unsafe places of work

(f) any shortages of correct and adequate personal protective clothing and equipment

(g) any accident or incident that is reportable under RIDDOR

5 Items requiring prompt action:

(a) any potential hazards which may exist, but which do not cause any imminent or immediate danger

(b) any signs of inadequate information, instruction or supervision, which should have been provided by either the management or others

(c) any first aid facilities and training that fall short of statutory requirements

(d) occasions when new plant, new work methods, new equipment, or different materials are to be introduced into the workplace.

6 Items requiring short-term action:

(a) where there is a lack of planning and control affecting safety within the workplace, either directly or indirectly, e.g. through the inadequate supply of materials and equipment to enable the workforce to carry out their tasks satisfactorily and safely

(b) where there are signs of inadequacies in the personal skills, knowledge and experience of the workforce, which may have an adverse effect on safety.

7 Items requiring long-term planning and action:

(a) where there is a lack of certain categories of safety skills and trained personnel amongst the workforce

(b) where there is a need for the training of safety advisers, supervisors and safety representatives

(c) where there is a need for training to take place to keep abreast of the future needs of the company and its employees

(d) where there is a need for the improvement of standards of health, welfare and safety within the company.

1.1.9.5 Safety tours

1 Managers, engineers, foremen, supervisors and operatives should have the opportunity to take note of safety conditions prevailing within the workplace during normal construction work. Production, however, will often be their first priority and this need to get the job done may adversely affect their judgement on safety matters. Familiarity with certain activities and hazards may further cause them to overlook, fail to recognise or ignore real or potential dangers which are present at the workplace.

2 For these reasons, **safety tours** (general inspections of the workplace) made by safety advisers, supervisors and safety representatives should take place at regular intervals.

3 In attempting to reach agreement with Contractors on the frequency of safety tours, the following factors should be considered:

(a) the size of the site to be inspected, the number of people employed and the number of types of activity which are carried out on that site

(b) the categories of skill and the experience of the operatives

(c) the existing safety policy and safety organisation within the company

(d) the accident record of the site, company or organisation

(e) the degree of risk to employees in carrying out specific activities or to groups of other people.

1.1.9.6 Safety Sampling / Visit

1 Safety sampling/visit of a particular work activity, process or work area may be necessary in the following circumstances:

(a) where the activity, process or work area presents particular health and safety concerns

(b) where there have been changes to an activity, process or work area that are relevant to health and safety

(c) where there is a need to improve the safety performance of the company in a particular area of operations

(d) where there have been changes in Qatar legislation or safety standards which affect the operations of the company

(e) where there are high accident rates or increasing accident rates

(f) where there are areas of high labour turnover.

2 Safety sampling/visit should be carried out by someone totally familiar with the work activity, process or work area under inspection.

1.1.9.7 Safety Management Review / Surveys

1 These are general inspections which are carried out at longer intervals (yearly or once every

two years) to assess the current safety standards and activities of the company, and to compare these with other sites of the same company, or other companies within the industry.

2 The survey should be used to determine the future safety objectives and activities of the company, in the light of planned requirements.

3 The safety management review shall be conducted annually and in accordance with OHSAS 18001.

4 It provides an opportunity to:

(a) compare the current safety performance of the company against previous years

(b) review safety objectives and determine the future objectives and safety policy of the company

(c) examine current levels of safety activity and training within the company to decide whether they are adequate and suitable

(d) decide where changes, if any, need to be made, and to make recommendations to the company as to where and how those changes may be implemented

(e) improve procedures, records, communications and information supplied by and to the Contractors or their representative

(f) determine whether any additional resources are required to enable the company's operations to be carried out more safely and effectively

(g) decide whether the numbers of existing safety staff (including safety representatives) are adequate.

1.1.9.8 Focus audit / Hazard-spotting exercises

1 Focus audit / Hazard-spotting exercises are a modified version of the safety sampling method, where a particular department, section, work area or work activity is singled out for a closer and more thorough examination.

2 The exercises should be conducted regularly and arranged by the safety adviser, in conjunction with the company management. It should involve supervisors, safety representatives and operatives.

1.1.9.9 Focus audit / Hazard-spotting party

1 Members of the proposed hazard-spotting party should have had some previous training or experience in safety matters and be able to:

(a) recognise any unsafe acts of people at work

(b) recognise unsafe or potentially unsafe conditions of work or methods of work.

2 One person should be appointed leader, and their functions should include:

(a) the collection of the written findings of the members of the party

(b) the study of these findings and the summary of unsafe acts and conditions which have been observed during the tour

(c) the preparation of a brief report, setting out the unsafe acts and conditions which were observed during the tour and making recommendations for action by

(d) the management or their representative to rectify any situation that may have been observed

(e) noting and recording the response of the line or senior management, satisfying themselves that action will be taken by management to rectify any situations observed

(f) reporting back, to members of the party, what action will be taken by the line manager concerned.

3 The participants should be informed in advance of their involvement in the hazard-spotting exercise, given a time and place to meet, and told who is the leader of the party to whom they should report.

4 They should be:

(a) briefed on which work processes and activities are to be inspected and the hazards which they will be looking for

(b) informed that they can ask any questions, but not interfere with the normal work processes and activity

(c) instructed in the use of any checklists or forms which are to be used to record their findings. See examples in Appendix 2

(d) asked to differentiate between unsafe acts and unsafe conditions

(e) instructed to record their findings independently, without fear of recrimination or interference.

5 The leader of the party spots at the same time as everyone else and is responsible for seeing that the inspection tour is completed within the agreed timescale.

6 Employees working in the section to be inspected should be informed of the intent to inspect, but not of the date or time when the inspection will be carried out.

1.1.9.10 Focus audit / Hazard-spotting programme

1 A set and properly structured programme of inspections and sampling will ensure that all of the main activities of a company are continuously under scrutiny. Focus audit / Hazard-spotting exercises should be used not only where there is seen to be a need to ensure the safety and health of people at work, but also as a continuing monitoring exercises.

1.1.9.11 Inspection reports

1 Supervisors and safety representatives should record the findings of their inspections. Commercially produced versions of inspection report forms are often multi-copy, and 'self duplicating', with each copy on a different colour paper to identify the intended recipient. These are called PAD format.

2 See an example of a report form in Appendix 3.

3 Whatever the type of checklist or form used, it should provide a record of any action requested to remedy conditions and working practices considered to be unsafe. Space should be provided on the form to record the date and place of the inspection and details of the action taken or, if no action was taken, an explanation of why this was so.

1.1.9.12 Investigation at the workplace

4 Safety representatives are expected to;

(a) investigate potential hazards and dangerous occurrences at the workplace

(b) carry out inspections where there has been a RIDDOR accident, occurrence or disease at the workplace

(c) investigate any complaints by employees relating to health and safety

(d) make representations to the Contractors on behalf of the workforce on general and

specific matters relating to the health and safety of employees at the workplace.

5 These functions do not affect a Contractors rights and obligations to manage an enterprise or site as they should wish, or to investigate any type of accident or occurrence.

1.1.9.13 Safety auditing

1 Many clients are now asking for detailed safety management information, such as that gathered during safety auditing, as part of their pre-qualification procedures. This will be part of the client's competence assessment of contractors, as required under CDM. Such information has the potential to indicate a proactive approach to safety management and whether or not identified issues are satisfactorily dealt with.

What is a safety audit, and what is in it for you?

2 A safety audit shall be conducted to identify hazards and levels of risk, to detect falling standards and to ensure that operations are performed in an efficient and safe way in accordance with the policies and procedures laid down by the organisation.

3 Therefore, the key requirements of a safety audit include:

(a) a critical examination of the whole operation

(b) an assessment of how the risks to health and safety are being handled

(c) the identification of the efficient and safe performance of people

(d) the detection and identification of falling standards, ineffective company procedures, and non-compliance with industry standards and Qatar legal requirements

(e) the use of meaningful standards consistent with the organisation's operations.

4 Health and safety auditing should also be seen as an integral part of the overall monitoring of health and safety within an organisation.

5 The aim of such an audit is to identify problem areas that may exist, so that you can make improvements to your standard of safety. The audit should look at the interaction of all the activities of your company, as well as at the activities themselves.

6 An audit supports the company's safety policy; it measures performance against it and will help management to judge just how well safety is being managed and, if carried to its logical conclusion, will prompt the question: 'What caused this accident to happen?'

7 By adopting safety auditing, the Contractors will be acting to identify problems and possible causes of accidents before they happen.

8 If any are identified, the Contractors will be able to change the health and safety management system, improve working practices, identify health and safety training needs and strengthen other weaknesses. These changes will help ensure that no unsafe actions occur, thereby preventing accidents, and may include the setting of new standards of health and safety performance by managers and employees.

9 The aim of any health and safety auditing system should be to constructively assist site management to safely organise the company's construction activities. The application of a well thought out auditing system will undoubtedly repay the time and money that the company initially invests in developing it.

10 There is an additional benefit to the company

11 The result of safety audits carried out correctly is an improved safety performance so that the ultimate of **NO ACCIDENTS** is achieved.

12 A good audit will benefit everyone from senior management to the youngest employee, and will hopefully be accepted on its merits as the resultant changes bring improvements in safety performance.

13 The health and safety audit should be carried out, as far as possible, by independent auditors. This overcomes the problems faced by line managers auditing their own area of work, or even a second line manager being critical of their peers. Auditing must be carried out objectively and with a high degree of honesty when identifying non-compliance with management systems and techniques.

14 The frequency of safety audits should ensure that the health and safety management system of the organisation does not degrade over time or through changes in the company organisation, personnel or the activities it carries out.

1.1.9.14 Benchmarking

1 One of the most difficult things about auditing is deciding whether the measured performance is satisfactory. Within health and safety, experienced external auditors will typically audit against two parameters:

(a) performance against internal systems

(b) performance against legal standards.

Construction Site Safety
1.1.9 Appendix 1

Observation checklist

The worker

1 Is the worker able to obtain and correctly wear personal protective equipment, such as:

(a) gloves

(b) clothing

(c) boots

(d) helmets

(e) goggles

(f) ear defenders?

2 Is the worker aware of safeguards which exist in relation to:

(a) use of: safety signs and signals

(i) machine and equipment guards

(ii) warning notice

(iii) barriers

alarm systems

safety equipment

first aid training?

3 Is the worker aware that they must exercise good behaviour at work whilst paying attention to the following:

(a) avoiding messing around

(b) distractions

(c) staying out of prohibited areas

(i) use of: machinery
plant
power tools
hand tools
transport
access equipment
working platforms
hazardous activities?

4 When handling materials, does the worker take into account the following:

(a) good manual handling and lifting techniques, including wearing appropriate PPE

(b) mechanical methods available

(c) proper stacking

(d) correct storage

(e) transporting and moving loads

(f) loading and unloading

(g) dangerous materials?

5 If required to work in hazardous areas, is the worker **COMPETENT** to work:

(a) at heights
(b) above or near to water
(c) near live electrical conductors
(d) in confined spaces
(e) in excavations, tunnels and shafts
(f) in other hazardous environments?

6 Is the worker aware of, and using, welfare facilities which are provided relating to:

(a) first aid
(b) changing rooms
(c) canteen
(d) washing
(e) seating
(f) toilets
(g) drinking water
(h) drying facilities
(i) workspace

The workplace and the work method

7 Is the working environment satisfactory in relation to:

(a) ventilation
(b) temperature
(c) lighting
(d) noise
(e) dust
(f) fumes
(g) welfare facilities?

8 Is the condition of machinery, plant and equipment, tools and materials acceptable as far as the following are concerned:

(a) machinery, transport, plant
(b) workplace
(c) working platforms
(d) tools, equipment, appliances
(e) hazardous work areas?

9 Are adequate fire precautions in place including:

(a) exits and emergency escape routes

extinguishers

alarms

procedures?

10 Are safety notices displayed, relating to:

(a) warning notices

(b) general health and safety signs

(c) colour codings

(d) work methods

(e) adequacy of: information
instruction
supervision
work procedures?

11 Is good housekeeping a part of normal procedures when considering:

(a) general layout

(b) site conditions

(c) ground, floor conditions

(d) storage areas

(e) gangways, walkways

(f) access, egress?

Construction Site Safety
1.1.9 Appendix 2

Observation report

Unsafe acts	Unsafe conditions
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

Location.....

Name..... Date.....

Comments:

This illustration constitutes only an example of the kind of form which could be used during a hazard-spotting exercise of the workplace. Contractors may choose to use this example or create their own.

Construction Site Safety
1.1.9 Appendix 3

Health, Safety and Welfare Inspection Report

Company.....Report no.....

Workplace.....

Welfare

1	Canteens	
2	Rest rooms	
3	Changing rooms	
4	First aid training	
5	First aid facilities	
6	Washing	
7	Sanitation	
8	Protective clothing	
9	Protective equipment or substances	

Offices

10	Accident records	
11	Statutory forms, registers, etc.	
12	General cleanliness	
13	Fire precautions	
14	Environmental factors	
15	Seating	
16	Access/egress	
17	Alarms, notices	

Storage areas

18	Tidiness	
19	Flammables	
20	Gases	
21	Fuels, lubricants	
22	Fire precautions	
23	Tools & equipment	
24	Access equipment	
25	Timber	
26	Dangerous materials	
27	Stores procedures	

Construction site

28	Scaffolding	
29	Ladders, trestles	
30	Working platforms	
31	Access/egress	
32	Signs & notices	
33	Accommodation	

34	Services	
35	Security	
36	Fire precautions	
37	Electrical	
38	Hoists	
39	Tower cranes	
40	Mobile cranes	
41	Lifting gear	
42	Excavations	
43	Transport	
44	Other plant	
45	Machinery	
46	Power tools	
47	Hand tools, equipment	
48	Tidiness	
49	Noise levels	
50	Traffic management	
51	Restricted area	

Action required for items.....

(Details on reverse of form)

Signature(s)..... Date of inspection.....

(Safety representative(s)

Circulation: Original (pink) to safety officer / supervisor
1st copy (blue) to site manager / agent
2nd copy (white) to be retained by auditor
3rd copy (yellow) for management action and return

Construction Site Safety
1.1.9 Appendix 4
Contractor NCR Template

SAFETY NON-CONFORMANCE REPORT

Contract Name:	**Contract Number:**	
Contractors Name:		
NCR No:	**Date Opened:**	**Date Closed:**

Work Area / Location:

CONSULTANT /ENGINEER REP* *Delete as applicable

PART A: DETAILS OF NON-CONFORMANCE:
Details:

Classification of Defect:
☐ Critical ☐ Major ☐ Minor ☐ Unknown

Cause of Non-conformance:
☐ Material ☐ Process ☐ Equipment ☐ Documentation

Documentation Reference (QCS, Local Legislation, Other Specification / Standard etc.):

Name & Signature:	Title:	Date:

CONTRACTOR

PART B: PROPOSED REMEDIAL / CORRECTIVE & PREVENTIVE ACTION:
Details:

☐ Reject/Replace ☐ Re-work ☐ Repair ☐ Use as-is

Target Date to Close NCR:

Name & Signature:	Title:	Date:

CONSULTANT

PART C: CONSULTANT ACCEPTANCE OF CONTRACTORS PROPOSALS IN PART B:

☐ - Contractors proposals are acceptable and remedial work / Corrective & Preventive Action may proceed.

☐ - Contractors proposals are unacceptable for the following reasons. (Contractor should revise & resubmit):

Name & Signature:	Title:	Date:

CONTRACTOR

PART D: REMEDIAL WORKS / CORRECTIVE & PREVENTIVE ACTION PROPOSED IN PART B ARE COMPLETE & READY FOR INSPECTION:

Name & Signature:	Title:	Date:

ENGINEER REP.

PART E: FOLLOW UP & CLOSE-OUT:

☐ - Remedial Works / Corrective & Preventive Action have been undertaken and are acceptable. This NCR may be closed out.

☐ - Remedial Works / Corrective & Preventive Action undertaken by the Contractor are not acceptable for the following reasons and this NCR may not be closed out. (Contractor must address these issues):

Name & Signature:	Title:	Date:

NOTES AND ATTACHMENTS (Photographs, Sketches etc.):

Construction Site Safety

1.1.10 Safety at Street Works and Road Works

1.1.10.1 Key points

1 Will someone coming along the road or footway from any direction understand exactly what is happening and what is expected of them?

These Regulations specifies minimum safety requirements for:

(a) signage and lighting

(b) working on different classes of roads

(c) methods of traffic control

(d) speed control of passing traffic

(e) works near to tramways and railway level crossings.

(f) Operatives who carry out work on the highway must be competent to do so, particularly anyone involved in laying out the site, positioning signage or lighting, implementing traffic control measures and undertaking similar jobs.

Note: Section 1, Part 3 of the QCS covers traffic safety management. Section 1, Part 16 of the QCS covers traffic diversions. Section 6 of the QCS covers roadworks..

1.1.10.2 Introduction

Health and Safety at Work (Construction Sites)

1 This places a duty of care on Contractors, employees and the self-employed. It requires not only the safety of employees to be considered, but also the safety of those affected by the work i.e. members of the public using the highway.

1.1.10.3 Commencement of work

1 When you give notice that you intend to start work, they will inform the other utility service providers in an attempt to co-ordinate works so that the utilities may each carry out their work during one excavation in order to avoid the same piece of roadway being continually excavated.

1.1.10.4 Measures necessary where apparatus is affected by major works (diversionary works)

1 **Definition: Apparatus** is any pipe or ducting buried within the highway or pavement which is owned by one of the utilities. It may take the form of gas pipes, water mains, sewers, electricity cables, telephone cables and, where installed, cable TV cables.

1.1.10.5 Major works

1 The term **major works** covers works carried out by the Civil Engineering Department Ministry of Public Works such as:

(a) the reconstruction or widening of the highway

(b) works on dual carriageways and at roundabouts

(c) other similar major works

(d) the construction of vehicle crossings over footways and verges.

1.1.10.6 Diversionary works

1 The term diversionary works covers:

(a) works to protect apparatus on site

(b) works to relocate apparatus elsewhere.

1.1.10.7 Construction risk factors

1 Construction factors to be considered in deciding whether apparatus is at risk include:

(a) the removal of the footway or carriageway construction

(b) construction plant crossing or working in the vicinity of apparatus

(c) the undermining or removal of side support to apparatus

(d) any deep construction adjacent to apparatus

(e) piling or ground consolidation operations.

1.1.10.8 Vehicle crossings

1 The construction of vehicle crossings is included because the works put apparatus at risk in a number of ways, such as:

(a) the majority of 'service' apparatus is located in footways

(b) the footway construction layers must normally be excavated to accommodate thicker construction layers

(c) the new construction may no longer provide adequate cover to apparatus

(d) the vehicular loading may be greater than the apparatus can withstand

(e) vibrations from vehicles may weaken joints over a period of time.

1.1.10.9 Minimising construction risks

1 To minimise construction risks, you should:

(a) provide suitable and safe vehicle crossing and access points.

(b) temporarily move apparatus to a safe location, during any construction work.

(c) protect or temporarily support apparatus in situ.

Note: *Methods of supporting apparatus during excavation form part of the assessment process incorporated within the relevant operative and supervisor qualifications.*

1.1.10.10 Safety of gas apparatus

Depth of cover

1 The normal minimum depth of cover for gas mains operating in the low and medium pressure ranges is:

(a) 600 mm in footway or verges

(b) 750 mm in carriageways

2 although these figures may vary, as each area gas companies can have its own standards.

3 In certain circumstances, depending upon the mains material, operating pressure and depth of cover, it may be acceptable for the mains to remain in situ when only subjected to light

traffic, e.g. a vehicle layby or crossing.

4 It is not generally permissible to allow cast iron mains previously in the footway or verge to be subjected to vehicular traffic.

Risks during construction

5 Liaison with the gas services provider during the planning stage is essential because existing mains, specifically older materials such as cast iron, cannot be raised, lowered or moved laterally even for a few millimetres without risk. Gas apparatus must not be undermined and certain apparatus is particularly vulnerable to deep excavations adjacent to the apparatus.

6 Any proposals to dig deep trenches may mean that gas apparatus will have to be diverted.

1.1.10.11 Safety of water apparatus

1 Decisions on the protection or diversion of water mains are likely to be influenced by considerations of access to mains for repair purposes.

Depth of cover

2 The minimum depth of cover for the three types of water mains, i.e. trunk mains, distributor mains and service pipes, will vary according to its type.

3 Further information can be found by consulting with the Qatar General Electricity & Water Company.

Risks during construction

4 Construction plant and lorries travelling over water apparatus with temporarily reduced cover can be an unacceptable risk. Therefore, diversions may be necessary unless protective measures are practicable.

5 Factors influencing the decision to divert water pipes must include:

(a) the maintenance of the continuity of supply and the water quality

(b) material types and condition

(c) the inability to raise, lower or slew pipes

(d) the possible loss of ground support to pipes with the consequential risk of damage.

1.1.10.12 Safety of telecommunications apparatus

1 The need for the rigorous exclusion of moisture from telecommunication cables and joints places constraints on what can be done to older cables, in respect of their movement during works.

2 For maintenance purposes there is the added need for vehicles to have access and be located at or near jointing chambers.

Preferred depth of cover

3 Varying depths of cover may be found with this type of equipment, depending on the types and design of the cables. As a rough guide, television and telecom cabling can be found at depths varying from 250 mm in the verge or footway up to 900 mm in the carriageway.

Risks during construction

4 According to circumstances, the apparatus may be left in situ if ducts are adequately protected from construction plant and vehicles by the use of metal plates or tracks.

5 In some cases, it may be possible to accommodate small temporary or permanent alterations in the line of a duct track by bodily slewing, raising or lowering a nest of ducts with the cables in situ.

1.1.10.13 1.1.10.13 Overhead telecommunication lines

1 Poles must be positioned to:

(a) minimise the risk of damage to cables by vehicles

(b) give the minimum inconvenience to pedestrians

(c) avoid obstructing access to premises.

2 Road alterations may necessitate the replacement of poles if the clearance under the cables becomes inadequate.

3 Minimum heights above ground for overhead telecommunication lines are typically:

(a) 6.1 m at any point over a street

(b) 6.1 m on bus routes

(c) 6.5 m on designated roads.

1.1.10.14 Safety of electrical apparatus

1 The following factors should be considered when protecting cables in situ or diverting apparatus.

Underground cables

(a) The need to protect and support potentially hazardous equipment from mechanical impact, damage, strain and vibration during and after road works.

(b) A requirement to maintain the security of supply if alternative circuits are not available.

(c) The operating voltage of the apparatus. **Depth of cover**

2 The depth at which electricity cables or ducts are usually laid in the ground is decided by the need to avoid undue interference or damage.

3 Dependent on the type of cable and the power that it may be carrying, the depth of cover may vary from 450 mm up to 900 mm. It is common to find electrical cables much shallower than these depths, particularly over bridges or culverts and extreme caution must be exercised.

4 In all cases where the depth of cover is likely to increase or decrease, the apparatus owner must be consulted.

Overhead lines

(a) The supports and stays of overhead lines may have to be relocated.

(b) Ground clearance may be affected.

(c) Earth wires from supports may have to be re-sited.

(d) Buried pilot wires may be associated with the route of overhead lines.

Height above ground of overhead lines

1 The minimum height of overhead lines above ground varies according to the voltage of the cable and as directed by the service provider. They can be as low as 5.2 m for lines carrying 33 kV, up to 6.7 m for lines carrying 132 kV.

Risks during construction

(a) Additional protection or temporary diversion may be necessary to prevent damage to any apparatus during the construction stage.

(b) The hazards of accidental electrical contact by persons on site must be fully assessed.

(c) Damage to underground cables can, in certain circumstances, cause widespread loss of electrical supplies for a long period.

1.1.10.15 Signs and equipment

1 Traffic signs and other apparatus for the control of traffic must comply with relevant Qatar Work Zone Traffic Management Guide – latest revision.

1.1.10.16 Basic principles of signing

Fix signs properly

Visibility of signs

Traffic on two-way roads

Surplus signs

Clearing up

Refer to Qatar Work Zone Traffic Management Guide – latest revision.

Be seen

1 Whether working on site or just visiting, all personnel must wear a high visibility jacket or waistcoat to EN 471 at all times. Ensure the garment is in good condition and is properly fastened at the front.

2 Refer to Section 11 – Part 1(RD) – 1.2.2 – (PPE) Personnel Protective Equipment.

3 Refer to Section 11 – Part 2 (SAMAS) – 2.3.9 – (PPE) Personnel Protective Equipment.

1.1.10.17 Site layout definitions

1 Refer to Qatar Work Zone Traffic Management Guide – latest revision.

1.1.10.18 Signs for Street Works and Road Works

1 Refer to Qatar Work Zone Traffic Management Guide – latest revision.

1.1.10.19 Foamed concrete for reinstatement (FCR)

FCR hazards

1 Cement-based materials that can be poured into an excavation to any required depth without the need for compaction are called FCRs.

2 Because FCRs are fluid, they present a hazard for children and animals. Reinstatements must therefore be guarded until a sufficient set has occurred.

3 Like all cement-based materials, FCRs should be handled with care because:

(a) excessive contact with mixed FCRs can cause contact dermatitis or skin burns

(b) excessive exposure to cement dust when FCRs are mixed on site can lead to respiratory problems.

Precautions

4 Use barrier creams on hands and wear gloves.

5 Wear long-sleeved shirts, full length trousers and Wellington boots.

6 Cement on skin should be washed off immediately.

1.1.10.20 Reinstatement

1 All utilities that have carried out work upon a highway or pavement, or have employed a contractor to carry out work on their behalf, are responsible for the satisfactory reinstatement of the highway or pavement.

2 Any interim reinstatements must be made permanent within six months.

1.1.10.21 Reinstatement faults

Settlement

1 This is the most common and obvious fault, and has implications for the short-term acceptability of the reinstatement to the public, and the long-term cost of maintaining the highway.

2 If the reinstatement material is soft in comparison with the surrounding undisturbed material, the latter will tend to move laterally towards the excavation and downwards until equilibrium is reached.

3 The area at risk on each side of the excavation is roughly equal to the thickness of the poorly compacted material, regardless of the vertical position of such material.

Crowning

4 The practice of deliberately filling the reinstatement high is an acknowledgement that settlement is going to occur.

5 The same processes of adjacent ground movement, and road structure cracking that accompany settlement can also be present with crowning, since they are a function of poor compaction and little influenced by surface profile.

Edge cracking

6 If the vertical edges between the reinstatement and original surfacing have not been sealed properly with bitumen, water can enter the joint, freeze, and open up a crack.

7 Alternatively, relative movement between the reinstatement and the original surface can cause fretting, initiating a crack which is subsequently worsened by the ingress of water.

Lateral spread in the surfacing

8 This can be caused by too soft a binder being used in the surfacing which then spreads due to traffic and temperature.

Bleeding or fatting up

9 In hot weather the binder softens. If the binder is soft initially, it may rise to the surface and either be picked up by vehicles or lie on the surface. If this is not rectified, the binder will harden during the colder months and form a very smooth, slippery surface.

Crazing

10 The development of fine surface cracks not accompanied by settlement results from fatigue of the material under traffic loading.

Fretting

11 This is defined as the loss of aggregate particles from the surface of bituminous materials.

12 A variety of causes can be identified, including inadequate compaction, low bitumen content, and an excessive degree of fluxing for the conditions.

13 The most serious consequence is the increased risk of skidding on the freshly exposed bitumen and loose particles of aggregate.

Cracking

14 Cracking in reinstatements remote from the edges is generally due to the tensile strain produced by settlement.

15 Another contributing factor is the use of thin surfacing layers which are consequently overstressed and suffer fatigue cracking.

Open texture

16 Delayed set materials need to be open textured to some degree so that fluxing oils can evaporate through the air passages.

17 By the same token, water can also soak down through the material into the underlying material.

18 Open textured materials should be replaced or surface sealed as soon as possible after they have hardened, especially in winter.

Lateral spread due to trenches in the edge of the carriageway

19 This happens in carriageways where the foundations of edge of the carriageway are weakened. Consequently they give way and allow the full depth of construction to spread.

1.1.10.22 Surface profile

1 The following requirements apply to the immediate, interim and permanent reinstatements of all service providers excavations.

2 If at any time during the immediate, interim or permanent guarantee periods the surface profile of a reinstatement exceeds any of the intervention limits, remedial action must be carried out in order to return the surface profile of the reinstatement to the as-laid condition.

As-laid profile

3 The reinstatement of any surface must be completed so that the edges of the reinstatement are flush with the adjacent surfaces and the reinstatement does not show any significant depression in between.

4 The maximum allowable tolerance at the edge of the reinstatement between the levels of the reinstatement and the adjacent surface must not exceed + 6 mm.

Edge depression - intervention

5 An edge **DEPRESSION IS AN ESSENTIAL VERTICAL STEP OR TRIP AT THE INTERFACE OF THE REINSTATEMENT AND THE EXISTING SURFACE.**

6 **INTERVENTION IS** required where the depth of any edge depression exceeds 10 mm over a continuous length of more than 100 mm.

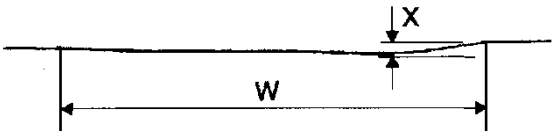
Edge depression limits

Surface depression - intervention

7 A surface depression is a depressed area within the reinstatement. It generally has smooth edges and gently sloping sides forming a shallow dish.

8 Intervention is required where the height of any area of surface crowning spanning more than 100 mm in any plan dimension exceeds the limits shown in the table.

Surface depression limits



Intervention limits - surface depression

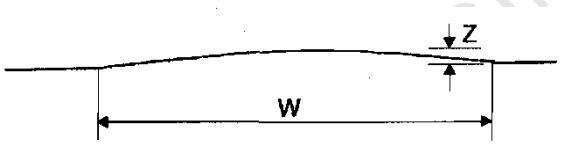
Reinstatement width W (mm)	Intervention limit X (mm)
up to 400	10
over 400 to 500	12
over 500 to 600	14
over 600 to 700	17
over 700 to 800	19
over 800 to 900	22
over 900	25

Surface crowning - intervention

9 Surface crowning is an upstand of the reinstatement above the mean level of the existing adjacent surfaces.

10 Intervention is required where the height of any area of surface crowning spanning more than 100 mm in any plan dimension exceeds the limits shown in the table.

Surface crowning limits



Intervention limits - surface crowning

Reinstatement width W (mm)	Intervention limit Z (mm)
up to 400	10
over 400 to 500	12
over 500 to 600	14
over 600 to 700	17
over 700 to 800	19
over 800 to 900	22
over 900	25

1.1.10.23 Inspections

1 During work and after completion, personnel from the Civil Engineering Department Ministry of Public Works will inspect work being carried out by services providers.

2 There are two distinct inspections:

(a) sample inspections

(b) defect inspections.

1.1.10.24 Sample inspections

1 These are routine inspections of random samples of services providers work at various stages of excavation and reinstatement and after reinstatement.

2 It enables the Civil Engineering Department Ministry of Public Works to monitor the level of compliance with prescribed standards including:

(a) applicable reinstatement specification

(b) the requirements for signing, lighting and guarding of works in progress

(c) verification that requirements for qualified supervisors and operatives are met.

1.1.10.25 Defect inspection

1 This is a procedure for dealing with individual reinstatements which fail to comply with the reinstatement specification.

2 A special procedure applies to non-complying reinstatements which are causing a danger to persons using the street.

1.1.10.26 Types of sample inspection

1 Five stages of inspection have been identified for monitoring purposes:

Type	Category
During excavation	1
Whilst reinstating (including interim phase)	2
Immediately after permanent reinstatement (within 1 month)	3
Between 6 and 9 months after permanent reinstatement	4
During one month preceding end of guarantee period	5

1.1.10.27 Inspection checklists

1 Two standard forms are used to report on the inspection carried out and include entries on whether the items checked were acceptable or non-acceptable.

2 The form for categories 1 and 2 covers signing and guarding requirements in addition to excavation and reinstatement works.

3 The form for categories 3, 4 and 5 cover performance requirements of the finished surface.

4 Sample forms are provided in Appendices 3 and 4.

1.1.10.28 Types of defect

1 Defective reinstatements may be identified:

(a) as a result of sample inspections

(b) by members of the public

(c) by routine inspections by the Civil Engineering Department Ministry of Public Works

2 Reinstatements that are found to be defective are divided into two types:

1.1.10.29 Non-complying reinstatements not causing danger

1 These are reported to the party undertaking the work and normally require remedial action to be taken within seven days.

1.1.10.30 Non-complying reinstatements causing danger to pedestrians & vehicles

1 Where the Civil Engineering Department Ministry of Public Works considers a defect to be causing danger, the overriding aim is to remove the danger as soon as possible. The exact procedure may differ in and out of normal working hours.

2 The Civil Engineering Department Ministry of Public Works may make the site safe by signing, lighting and guarding and request the attendance of the service provider.

3 Reported defects trigger a further two inspections.

1.1.10.31 Qualifications

1 Contractors must ensure that:

(a) the execution of street works is supervised by a person having a prescribed qualification as a supervisor

(b) there is on site at all times, whilst work is in progress, at least one person having a prescribed qualification as a trained operative

Construction Site Safety

1.1.10 Appendix 1

Safety checklist for the supervisor

Before work starts

1 Has a site-specific risk assessment been carried out?

2 Have you planned how you will sign and guard the works?

3 Have all the appropriate authorities been notified?

4 Is everyone on the site wearing high-visibility clothing?

5 What are the correct positions for the first warning sign?

6 What other signs are needed approaching the works?

7 What signs are needed at the works?

8 What length of coned taper is required?

9 How many lamps and cones will be needed?

10 What width of carriageway can be kept open and will it be enough for two-way traffic?

11 What width of footway can be kept open and will it be enough?

12 What form of traffic control is needed?

13 Have any misleading permanent signs been covered?

When work is in progress

14 If circumstances change, have you altered the signs, cones and lamps to suit?

15 Are signs, cones and lamps being regularly inspected, cleaned, maintained or replaced?

16 Has authorisation been obtained to accommodate any changed circumstances?

17 When traffic control changes are made at night or weekends, have the warning signs been changed?

18 Are traffic control arrangements reviewed and changed to reduce delays as works change?

19 Are the works adequately signed, guarded and lit for the overnight period?

20 Have you cleared away any mud that may have spread onto the surrounding road or footway?

When work is complete and before you leave

21 Have all signs, cones and lamps been removed?

22 Have all permanent signs been restored?

23 Have appropriate authorities been notified that work is complete?

24 Have you cleared away any mud that may have spread onto the surrounding road or footway?

Construction Site Safety
1.1.10 Appendix 2

Situations where further advice may be needed

Examples of situations where an operative will need to consult a supervisor

1 Where the Civil Engineering Department Ministry of Public Works restricts work to certain times of the day.

2 When the roadworks make it impossible for drivers to follow the permanent traffic signs.

3 At times of poor visibility or bad weather conditions, when additional signs may be required or work suspended.

4 When stronger than normal barriers are needed for deeper excavations.

5 Whether traffic control is needed at a site and which type would be appropriate for the circumstances.

6 Where it is intended to use portable traffic signals, as the traffic authority must give approval if these signals are to be used at a site which contains a junction.

7 When tailbacks occur at portable traffic signals.

8 Where a width of at least 3.25 metres cannot be provided on both sides of a site which is in the middle of a two-lane single carriageway road.

9 When the works affect a pedestrian crossing, in which case the traffic authority should be told in advance of the works. This is particularly important in the case of pelican crossings.

10 Where work affects tramways.

11 Where Stop/Go boards are proposed to be used in a shuttle lane containing a junction.

12 Where it may be necessary to close a road and therefore provide a diversion route.

13 When work on the approach to a traffic signalled junction disrupts the traffic flow through the junction.

14 If work has to be undertaken at permanent traffic signals on a road with a speed limit of 64 km/h or more.

15 Where works are located at roundabouts.

16 Where mobile works are located in the centre of carriageways.

17 Where mobile lane closure techniques are to be used.

18 Where works are to be undertaken within 200 metres of a level crossing or are likely to cause congestion in the area around a level crossing or where ramps as part of the works may cause long low vehicles to ground.

19 Where the works are near the junction of roads joining and leaving high speed roads.

20 Where works are located on three-lane single carriageway roads.

21 Where work is to be carried out over the carriageway and the headroom is reduced.

22 When work is likely to affect any bus route or bus stop.

23 Where work is located near to schools.

24 Where works are located near buildings likely to be used by large numbers of elderly or disabled people, e.g. old people's homes.

Construction Site Safety
1.10 Appendix 3

Service Provider works
Inspections checklist

FOR USE ON INSPECTIONS 1 AND 2	**DATE**
Authority reference	Service Providers reference
Location o/s of or from _____	to _____
_____	
_____	
_____	
Time taken for inspection _____	
_____	

1. Signing & guarding and excavation	Insert inspection number
2. Signing & guarding and backfill and reinstatement	

Signing & guarding	Acceptable	Unacceptable	Unseen/inapplicable
Correct type			
Distance			
Safety zones			
Barriers			
Traffic control			
Pedestrian control			
Other			
Excavation			
Backfill & reinstatement			
Surround to apparatus			
Backfill material			
Compaction			
Sub-base			
Roadbase			
Basecourse			
Wearing course			

State reasons for unacceptability

Name Signature Date

Construction Site Safety
1.1.10 Appendix 4

Service Provider works
Inspections checklist

FOR USE ON INSPECTIONS 3, 4 AND 5	**DATE**
Authority reference	Services Providers reference
Location o/s of or from _____to _____	
_____	
_____	
_____	
Time taken for inspection _____	
_____	

3. Immediately after permanent reinstatement (within 1 month)	Insert inspection number
4. Intermediate (between 6 and 9 months)	
5. One month preceding end of guarantee period	

	Acceptable	Unacceptable
Edge depression/trips		
Surface depressions		
Surface crowning		
Edge cracking		
Texture depth		
Surface regularity		
Other		

State reasons for unacceptability

Name Signature Date

State reasons for unacceptability

Name Signature Date

Construction Site Safety
1.1.10 Appendix 5

Size and siting distance: details of signs and cones and safety zone dimensions

Type of road	Minimum and normal maximum siting distance (D) of first sign in advance of lead-in taper (meters)	Minimum clear visibility to first sign (metres)	Minimum size of signs (mm)	Minimum height of cones (mm)	Sideways safety zone (S)	Details of lead-in cone tapers (but see Notes below) Recommended lengths	Width of Hazards (metres) including safety zones(s) 1	2	3	4	5	6	7
Single carriageway road, restricted to 48 km/h or less	20 to 45	60	600	450	0.5m	Length of taper (T) in metres	13	26	39	52	65	78	91
						Minimum number of cones	4	4	6	7	9	10	12
						Minimum number of lamps at night	3	3	5	6	8	9	11
Single carriageway road, restricted to speeds of 49 to 64 km/h inclusive	45 to 110	60	750	450	0.5m	Length of taper (T) in metres	20	40	60	80	100	120	140
						Minimum number of cones	4	6	8	10	13	15	17
						Minimum number of lamps at night	3	5	7	9	12	14	16
All-purpose dual carriageway road, restricted to 64 km/h or less	110 to 275	60	750	450	0.5m	Length of taper (T) in metres	25	50	75	100	125	150	175
						Minimum number of cones	4	7	10	13	15	18	21
						Minimum number of lamps at night	3	6	9	12	14	17	20
Single carriageway road, with speed limit of 80 km/h or more	275 to 450	75	750	450	1.2m	Length of taper (T) in metres	25	50	75	100	125	150	175
						Minimum number of cones	4	7	10	13	15	18	21
						Minimum number of lamps at night	3	6	9	12	14	17	20
All-purpose dual carriageway road, with speed limit of 80 km/h or more	725 to 1600	105	1200	750	1.2m	Length of taper (T) in metres	32	64	96	128	160	192	224
						Minimum number of cones	5	9	121	16	19	23	26
						Minimum number of lamps at night	4	8	1	15	18	22	25

Speed limit (km/h)	48 or less	64	80	95	112
Minimum longways clearance (L) metres	*1/2*	15	30	60	100

Notes:

1. Lead-in tapers used with traffic control, and all exit tapers, shall be at about 45° to the kerb line with cones spaced 1.2 metres apart.

2. The maximum spacing distance of cones in longitudinal lengths of coning shall be 9 metres, but no fewer than 2 cones shall be used in any length between tapers.

3. In certain circumstances on congested roads with speed limits of 48 km/h or under, the taper may also be reduced to 45°.

Construction Site Safety

1.1.11 Setting Up Site

1.1.11.1 Key points

1 Consideration must be given to the initial design, creation and layout of a site, and its effect upon the people who work on it, visit it, or live nearby.

2 The footprint of the structure(s) to be erected will dictate what space remains for other purposes, which must be used to its best advantage.

3 Consideration should be given to early contact with local residents, local schools, adjacent properties etc. prior to, or at the start of, setting up a site.

4 Time and effort put into properly planning and setting up a site has the distinct potential to forestall problems as the job progresses.

Note: Section 1, Part 1 of the QCS covers setting up a site and site management.

1.1.11.2 Introduction

1 CDM places a legal duty upon the client for any project to ensure that every person involved in the design process *and every Contractor* is provided with adequate and relevant information about the site to enable the health and safety of anyone engaged in the construction phase to be secured. This information should be included in the health and safety plan which then enables decisions to be taken with regard to setting up the site.

2 The health and safety plan should give the Contractor details of specific issues that will need to be considered when setting up a site. These, together with the contracts and architects' drawings and specifications, will give information about specific factors to be incorporated. It is likely that the responsibility for setting up the site will in many cases be delegated to the site manager.

3 Contractors are require to plan, manage and monitor the construction phase (which includes setting up a site) to ensure that, so far as is reasonably practicable, it can be carried out without risks to health and safety.

4 Suggested factors to be considered when setting up a site can be found in the appendix at the end of this section.

1.1.11.3 Temporary works

1 By the nature of construction, much work will not be left in place at the end of the project but still requires the same care and attention that the main structure attracts. Many accidents occur through poor planning, design and installation of temporary works which begin as soon as site set up commences.

2 Refer to QCS, Section 1, Part 14.

3 These include, but are not confined to:

(a) Foundation assessment for new porta cabin install, and in particular multi-storey complexes.

(b) Excavation support assessment to be carried out for below ground service connections.

(c) Services may require protection to prevent damage during site set up. Also material storage areas should be sited away from shallow services that may be susceptible to damage.

(d) Site hoardings and gates to be designed to withstand wind loadings. Particular attention should be taken with swing gates, and ensuring that these can be managed by an individual under high wind conditions.

(e) Any supporting structures on a cabin set-up must be designed, e.g. cabins elevated to provide parking below on congested city sites.

(f) Generally, there will always be a need for crane age on site, so ground bearing capacities require checking for outrigger loadings on and around the site.

(g) Any temporary access roads on site should be assessed to ensure that they are suitable to withstand loadings that may occur during site works.

(h) Site establishments that are at risk of objects falling from above should be protected with the use of designed crash decks or fans.

(i) Where site establishments are close to the public highway or temporary haul roads where heavy plant is to be used, there must be suitable barriers in place to protect the office from collision damage.

(j) When crane lifts are required from a neighboring street then the temporary works engineer must be aware of any below ground services, including basements and subways and so on, and their proximity to the crane.

1.1.11.4 Human factors

Competence

1 These Regulations require that:' No person may arrange or instruct a worker to carry out or manage design or construction work unless the worker is:

(a) competent, or

(b) under the supervision of a competent person.'

2 This is now the fundamental requirement of the requirement for health and safety in construction. Competence has been defined as: 'possessing practical and theoretical knowledge, which combined with actual experience so as to enable errors, faults and weaknesses to be detected and their importance accurately assessed'.

3 Depending upon the nature of the site and the type of work to be undertaken, the competence of people who will come on to the site might be an issue for the person setting up the site. It may be necessary, for example, to check the competence of those who will;

(a) erect, alter or dismantle scaffolds

(b) operate site plant

(c) dig excavations and install the supports

(d) install traffic management systems.

4 In any case the most likely competence required early on is that of a crane coordinator to ensure the planning and management of lifts associated with site cabins and welfare units.

Consultation

5 Contractors shall consult on matter of health and safety. Generally, this may be summarised as:

(a) *Contractors* shall consult their employees, or their representatives on issues of health and safety

(b) *employees* shall have anonymous methods to raise any concerns they have over health

and safety with the Contractors either directly or through their health and safety representative

6 As part of the process of setting up a site, consideration must be given to how effective Contractors/employee consultation on matters of health and safety will be achieved.

Co-operation

7 CDM requires that everyone concerned in a construction project, whether a contractor, self-employed person or an individual worker, must- co-operate with each other in the interests of health and safety.

8 How such co-operation can be effectively achieved, must be decided at the stage where a site is being set up.

Contact with the emergency services

9 It is required:

(a) to inform the emergency services of the location of the site, particularly if it is difficult to locate

(b) to inform the fire and rescue service if materials that represent a significant fire risk will be present on site

(c) to display in the site office a road map showing the quickest route to the nearest hospital with an Accident and Emergency Department in the site office

(d) to identify the position of emergency controller to oversee site actions and communication with emergency services.

1.1.11.5 Site features and facilities

Existing buildings, features and ground conditions

1 The Contractor shall identify the current and past uses of the site including but not limited to:

(a) the existence of contaminated ground and the possible need for extensive site transport movements, both within and off site

(b) ground water levels and/or underground water sources and the prevention of their contamination

(c) the previous storage of dangerous goods or hazardous substances in buildings, cellars or tanks

(d) the location of underground services and whether they have been, or need to be, isolated or protected from surcharging, for example stockpiling heavy materials over shallow services

(e) the location of overhead cables and whether they need to be isolated or repositioned

(f) the need for equipment to create barriers and goalposts where overhead cables cross or border the site and remain live

(g) if working on an existing structure, whether the electrical distribution system is still live and whether or not it should be

(h) the condition of existing buildings -strength/condition of roofs, floors, stairs, hand-rails, walls and structural members. Advice from a structural engineer may be required to assess the suitability of a structure for its intended use

(i) the possible presence of asbestos (where existing surveys exist these should be included)

(j) the possible presence of other hazardous substances, viruses and organisms such as lead, leptospirosis and anthrax

(k) the possible need for demolition

(l) the possible need for site lighting

(m) the existence of a health and safety file for work on existing structures.

1.1.11.6 Site security

1 The site boundary shall be secured immediately on possession, with lockable gates and suitable fencing or hoarding, and soil bunds if necessary, to prevent unauthorised access by the general public, particularly children, and to prevent the unauthorised tipping of waste. Where it is not possible to secure the whole site, adequate steps must be taken to ensure that potential locations of hazardous operations can be appropriately secured.

2 Gates and hoardings shall be designed and able to withstand wind loadings. Particular attention should be given to swing gates to ensure they can be operated by one person and stops should be in place to prevent gates swinging into pedestrian/public areas.

3 In many cases it will be necessary to make separate provision for the security of individual items of equipment and plant.

1.1.11.7 Pedestrian/traffic routes, movement of plant and people

1 Access and segregation will be needed not only for plant, other vehicles and equipment, but also for people, therefore segregation is the safest method. Ideally traffic routes shall be organised so that pedestrians are not put at risk by incorporating such measures as:

(a) site entrances and exits positioned so as not to cause a traffic hazard on the public road

(b) segregated traffic and pedestrian routes and, if practical and necessary, segregated site entrances

(c) one-way systems

(d) turning areas to avoid the need to reverse

(e) speed limits that must be enforced as necessary

(f) reversing vehicles being under the control of a qualified signaller

(g) the need for published traffic priorities where site vehicles and private traffic both use site roads

(h) the need for the provision of traffic control measures (e.g. traffic lights), both on and off site

(i) the provision of parking areas for delivery vehicles which are waiting to unload; if necessary, for example tightly-bound city centre sites, this may need to be off site

(j) the provision of a car park for privately owned vehicles which preferably:

(i) is entered directly from a public road without having to pass through construction areas

(ii) does not permit access to the construction area by private vehicles

(iii) is connected to the site offices and welfare facilities by a safe, segregated pedestrian route

the possible need for a vehicle wheel wash where there is the potential for mud or other debris to be deposited on public roads

the possible need for a mechanical road sweeper to keep site and public roads clear of mud or other debris

the provision of a secure vehicle compound.

2 When planning traffic/pedestrian routes, consideration should also be given to the possible need for rapid emergency evacuation of the site and/or the attendance of the emergency services.

3 Refer to Qatar Work Zone Traffic Management Guide – latest revision.

1.1.11.8 Materials storage and lay-down areas

1 Provision shall be made for the safe storage of materials and equipment. Consideration should be given to:

(a) ensuring that site roads and any access road to the site are kept clear of obstructions

(b) avoid 'double handling' by arranging for items (particularly heavy items that may have to be moved by hand) to be stored close to where they will be needed

(c) the provision of proper storage facilities for flammable substances such as bottled gases and fuels

(d) ensuring that materials that are delivered on pallets are stored in stable stacks, with a safe limit on the height of each

(e) ensuring that there is no chance of stored materials toppling and breaching the site boundary

(f) the possible need for access by lifting equipment such as telehandlers, mobile and tower cranes.

1.1.11.9 Utility services

1 The installation of utility services to support the running of the welfare facilities and other site accommodation. This could include:

(a) a 230 volt (mains) supply (or a 415 volt, 3-phase supply where there will be heavy electrical loads such as a tower crane)

(b) a supply of fresh water. This should be tested to ensure it is of suitable quality for drinking and, if a new connection, should only be made by Qatar General Electricity & Water Company

(c) the drainage of surface and foul water. New connections should only be made with the knowledge of the local authority. Particular attention should be given if hydrocarbons are to be used extensively near to watercourses. Petrol interceptors may be required, as are discharge consents if discharging into rivers

(d) the provision of gas or oil for heating

(e) appropriate telecommunication links

(f) the provision of a stand-by generator and the appropriate fuel.

1.1.11.10 110 -volt power system

1 Whilst not strictly speaking a 'utility', consideration must be given to whether a 110 -volt distribution system will be required, and if so:

(a) is there a live 230/415 -volt system to power it?

(b) who will design and install it?

(c) who will test and inspect to ensure it meets International standards?

1.1.11.11 Work at height

1 If work at height is to be carried out, it must be done so safely using the most appropriate access equipment.

2 If scaffolds (including alloy towers) are to be used, they must:

(a) only be erected, altered or dismantled by a competent person, or someone who is under the direct supervision of a competent person

(b) be periodically inspected by a competent person

3 If mobile elevating platforms are to be used, they must be suitable for the job and only operated by competent persons.

4 Ladders should only be used in situations where the findings of a risk assessment show it is not *reasonably practicable* to use other safety access equipment.

1.1.11.12 Excavations

1 If excavations are to be dug, which by virtue of their depth, size or position could lead to an injury if a person, material or vehicle fell into them, suitable equipment such as guard-rails will be required to form an effective barrier around each such excavation.

2 Where the sides of excavations have to be supported to prevent the fall of soil, rock or other material, the system of support must be designed by a competent person.

3 Usually the competent person, a temporary works co-ordinator, will gather such information as required including ground reports and liaise with designers to ensure adequate support is designed and installed.

4 A safe means of access and egress must be provided for the people who will work in excavations. Where dictated by the depth, this will usually be a ladder.

5 If vehicles have to approach excavations for any reason, for example to tip material, the vehicle should be under the control of a qualified signaller and suitable anchored stop-blocks (or a similar device) must be employed to prevent vehicles getting too near the edge. This must be communicated to the temporary works co-ordinator to ensure the design considers this activity.

1.1.11.13 The site office

1 It is acknowledged that, depending upon the size of the site and the nature of the project, the term 'site office' can cover office accommodation ranging from a single portable cabin to an office complex comprising multiple-cabins on more than one level in which non-construction workers, such as administrative staff, are employed.

2 Administrative staff, and others who may not usually carry or wear PPE, should ideally have access to site offices from outside the site via a safe route that does not entail passing through the construction area.

3 Any PPE free area shall be clearly marked and signage posted.

4 The site office shall offer reasonably comfortable accommodation for all types of weather and normal ranges of temperature.

5 When setting up the site office the following shall be considered:

(a) a suitable and safe form of heating, including the safe location of LPG cylinders if used

(b) the need for an electrical supply (with each circuit protected by a residual current device

[RCD]) and telecommunications

(c) obtaining a suitable, fully stocked first-aid kit unless first-aid facilities are located elsewhere

(d) obtaining a suitable accident book

(e) displaying information on how to identify and contact site first aider(s), where the first-aid box is located and the actions to take in an emergency

(f) displaying a copy of the Contractors Health and Safety Policy

(g) obtaining and displaying as necessary appropriate company-specific information

(h) obtaining registers for the recording of statutory inspections, for example inspections of excavations and scaffolds

(i) compiling registers for other purposes, for example:

(i) portable electrical appliance (PAT) testing

(ii) tests of the fire alarm and other emergency procedures

(iii) a site-visitors' log

1.1.11.14 Welfare facilities

1 Workers shall have clean and hygienic portable buildings or suitably protected areas where they can change and securely store clothing, make a hot drink, heat and eat their meals, and take shelter in the event of bad weather.

2 Workers shall also have access to clean, well maintained toilets and appropriate washing facilities with hot and cold or warm water, soap and towels, for example basins or sinks large enough to wash their faces, hands and forearms in. In appropriate circumstances it will be necessary for showers to be provided. Ablution facilities shall also be provided.

3 Where there will be males and females on site, separate provisions must be made in relation to:

(a) toilets

(b) washing (and if necessary shower) facilities

(c) changing rooms

(d) rest facilities.

1.1.11.15 First aid

1 The appropriate number of qualified first aiders and/or appointed persons for the job will be required. Details of the first aider(s) and the location of first-aid kit(s), with details of emergency telephone numbers, must be displayed and given out during site induction.

2 Where justified by the size of the site, or in a small number of cases the type of work being carried out, it may be decided that it would be beneficial to establish a first-aid room staffed by a qualified nurse at all times that work is being carried out.

1.1.11.16 Fire safety

1 Consideration must be given to the level of fire risk arising out of the work to be undertaken (not **FORGETTING THE MASSES OF PAPERWORK, DRAWINGS ETC. THAT CAN ACCUMULATE IN SITE OFFICES) AND THE NATURE OF ANY OTHER FLAMMABLE SUBSTANCES THAT MAY BE STORED AND USED.**

2 **A SUFFICIENT NUMBER OF FIRE EXTINGUISHERS APPROPRIATE TO THE TYPE OF FIRE WHICH MAY**

OCCUR SHOULD BE OBTAINED AND LOCATED IN HIGHLY VISIBLE FIRE POINTS IN APPROPRIATE PLACES, INCLUDING OFFICE AND WELFARE ACCOMMODATION.

3 **FIRE EXIT AND EMERGENCY ESCAPE ROUTE SIGNS MUST BE OBTAINED AND DISPLAYED AND MUST, IN THE INTERESTS OF HEALTH AND SAFETY, BE ILLUMINATED IN PERIODS OF DARKNESS, AS NECESSARY.**

4 **AN EARLY DECISION** must be made with regard to whether smoking will be allowed in any area of the site. If smoking is to be allowed in certain areas, those areas must be equipped with signs that clearly indicate the extent of the 'smoking area'. Equipment must be provided for the safe disposal of spent smoking materials. Official signs indicating that smoking is not permitted must be clearly displayed at the entrance(s) to all site accommodation.

1.1.11.17 Emergency plans

1 During the setting up of a site provision must be made for dealing with emergency situations which may involve evacuation of the site. It is likely that this will be simpler for an open site than, say, for the refurbishment of a multi-floor structure.

2 The Contractor shall Liaise with the Civil Defence (Fire Department) to identify a fire-fighting strategy within the plan and locations of fire-fighting cores and dry riser locations.

3 Emergency escape routes shall be determined, identified by appropriate signs and communicated to all on site. On larger, more complex sites it may be necessary to:

(a) compile a fire safety/emergency evacuation plan, which may or may not as appropriate, be a part of the construction health and safety plan

(b) appoint evacuation wardens who have responsibility for ensuring that particular areas of the site have been totally evacuated.

4 The Contractor shall identify the location of a suitable assembly point, which can accommodate the maximum number of people expected on site and is a safe distance from the potential hazard, must be determined. On larger sites it may be considered appropriate to designate more than one assembly point.

5 Information shall be displayed regarding actions to be taken in the event of an emergency, for example:

(a) what the fire/evacuation alarm sounds like

(b) the days/times that tests will be carried out

(c) where the fire assembly point(s) is/are.

6 Suitable arrangements shall also be provided for dealing with environmental emergencies and incidents such as the accidental release of oils or fuels. The site must consider the type and location of spill kits and any necessary training in their proper use and disposal.

1.1.11.18 Personal protective equipment

1 Contractors have a legal duty to provide the necessary personal protective equipment (PPE) for their employees. Depending upon the type of work that will be undertaken and other control measures that are in place, it is quite likely that a stock of appropriate PPE will be required at the time the site is set up.

2 It may be necessary to discuss with a reputable PPE supplier the standards of PPE required where there is a choice, for example when purchasing:

(a) respiratory protective equipment

(b) eye protection

(c) hearing protection

(d) gloves

1.1.11.19 Signs and notices

1 It is usual to post one or more signs at site entrances to inform all persons who enter of the health and safety requirements of the site. It is usual for these to specify:

(a) the minimum standard of personal protective equipment required (usually safety helmet, safety boots, safety glasses and hi-vis waistcoat). Specific safety gloves shall be provided as per the work to be done.

(b) that all visitors must report to the site office.

(c) Other signs that must be obtained for display are:

(d) a selection of appropriate, mandatory, warning, prohibition and safe condition signs

(e) appropriate traffic-management signs

(f) if appropriate, signs to indicate the presence of liquid petroleum gases and other flammable substances, particularly vehicle fuels

(g) other fire safety signs as are necessary, for example to indicate the location of fire points.

1.1.11.20 Waste disposal

1 The Contractor shall provide for waste disposal including the quantities, various segregation and types of waste (possibly including food waste) that will be generated and arrangements made for its lawful disposal.

1.1.11.21 Environmental considerations

1 Much construction work has the potential to impose a severe impact upon the environment. Measures must be taken to prevent environmental damage including:

(a) defining responsibilities on site for managing the environmental issues

(b) making everyone on site aware of the project environmental issues through inductions and briefings

(c) identifying and protecting any water courses and drainage systems

(d) implementing measures that will avoid the spillage of harmful fluids, but where spillage does occur, preventing it from seeping into the ground and contaminating water courses, including sources of drinking water

(e) the appropriate handling, storage and disposal of construction waste and other types of waste

(f) adequately protecting the site against theft and damage

(g) identifying and dealing with the existence of protected species of mammals, insects, plants etc.

(h) reducing noise pollution as far as it is reasonable to do so, which may involve restricting some construction processes to certain times of the day

(i) providing well-maintained haul routes to reduce dust, mud and noise

(j) reducing the amount of substances used that give off environmentally damaging vapours or fumes

(k) paying appropriate attention to other sources of nuisance to neighbouring properties

and the public in general

(l) not leaving the engine of any item of construction plant running when it is not in use

(m) maintaining good housekeeping to prevent wind-blown debris or waste leaving the site and to reduce damage and waste to materials

(n) turning off other power sources when the equipment is not in use.

Construction Site Safety
1.1.11 Appendix

Setting up site checklist

This checklist suggests the common factors that should be checked when setting up a site; the list is not exhaustive. If necessary, refer back to the main text of this section, or other sections that cover specific topic areas, for greater detail.

Human factors

Competencies			
	Y	**N**	**N/A**
1. Have measures been put in place for accurately assessing the competency of everyone who will come on to the site? In particular, attention to competence should be applied to: 1.1 carrying out risk assessments and extracting the significant findings 1.2 writing method statements and disseminating the content 1.3 raising, monitoring compliance with and cancelling permits to work 1.4 carrying out any type of training 1.5 designing, erecting, altering or dismantling scaffolds (including alloy tower scaffolds) 1.6 carrying out scaffold inspections 1.7 raising scaffold hand-over certificates 1.8 planning, supervising and working at height, using any means of access 1.9 designing and installing excavation support systems 1.10 carrying out the inspection of excavations 1.11 the identification and isolation (as necessary) of buried services 1.12 operating all types of construction plant 1.13 carrying out inspections and examinations of construction plant 1.14 planning and supervising lifting operations 1.15 inspecting and examining lifting equipment and accessories 1.16 planning, supervising and carrying out work in confined spaces 1.17 carrying out rescues from confined spaces 1.18 the use of any power tool or hand tool that has the potential to be harmful if not properly maintained, inspected and/or used 1.19 assessing exposure to noise and/or vibration 1.20 the use of any flammable or hazardous substance 1.21 any work on the public highway 1.22 designing temporary works for site establishment			

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The spaces below are for competences, not included above, to be added. 1.23 1.24 1.25 1.26 1.27 1.28 1.29 1.30			
Consultation			
2. Have measures been put in place to ensure effective two-way consultation and communication on matters of health and safety?			
Co-operation			
3. Have measures been put in place to ensure effective co-operation between everyone who will be on site?			
Contact with the emergency services			
4. Has contact been made with the relevant emergency services to ensure that they have sufficient information to deal with any foreseeable emergency that might arise?			

Site features and facilities

Existing buildings, features and ground conditions			
	Y	**N**	**N/A**
1. Have checks been made of the previous use of existing structures and the land?			
2. Have checks been carried out for land that may be contaminated, for example, by leakage of fuels or oils?			
3. Have the appropriate authorities been asked for details of water levels and/or underground water sources?			
4. Is there evidence of previous storage in buildings, cellars or tanks of dangerous goods or hazardous substances?			
5. Has all information, relating to any underground services, been provided?			
6. Have the appropriate measures been taken to prevent an electrical hazard from overhead cables?			
7. Has the existing electrical distribution system been made safe?			
8. With regard to buildings on the site, is the strength/condition of roofs, floors, stairs, guard-rails, walls and structural members known?			

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9.	Have checks been made to establish whether or not asbestos is present?			
10.	Have checks been made to establish the presence of other hazardous agents, such as chemicals, gases, viruses or organisms?			
11.	Will any demolition required be carried out by competent contractors?			
12.	Has the delivery and installation of site-lighting been arranged?			
13.	Has the Health and Safety File for any existing structure(s) been consulted?			

Site security

		Y	N	N/A
1.	Has the delivery and erection of materials to form a secure site boundary been arranged?			
2.	Have those people who will be on site as it is set up been informed of the security arrangements?			
3.	Have out-of-hours contact details been displayed at the site entrance?			
4.	Have separate security measures been put in place to prevent theft and to prevent access into identified hazardous areas?			
5.	Is a plan in place that outlines the actions that should be taken to deal with unauthorised visitors?			

Management of vehicular and pedestrian traffic

		Y	N	N/A
1.	Have traffic routes been designed to segregate vehicles from pedestrians?			
2.	Have site entrances and exits been positioned so as not to cause a traffic hazard on the public road?			
3.	Have traffic management measures such as one-way systems, speed limits and turning areas been implemented?			
4.	Are there clear priorities, for example using traffic lights, where site transport and private vehicles use the same routes?			
5.	Has a safe area been designated for delivery vehicles waiting to unload?			
6.	Has a car-park for private vehicles, with a safe entrance and exits (separate exit for pedestrians), been established?			
7.	Have measures been taken to prevent mud and debris from accumulating on public roads?			
8.	Has a secure construction plant compound been established?			
9.	Have haul roads been designed to prevent blind spots and prevent build up at pedestrian crossings?			

Materials storage and lay-down areas	Y	N	N/A
1. Have these areas been planned so that traffic and pedestrian routes will not be obstructed?			
2. Have these areas been positioned to avoiding the 'double handling' of heavy items that may have to be moved by hand?			
3. Have proper storage areas been created for flammable substances, such as bottled gases?			
4. Are palletised materials stored safely, with stacks of materials stable and limited in height?			
5. Are storage areas located away from site boundaries, particularly in areas where the general public have access to the other side?			

Utility services	Y	N	N/A
1. Have arrangements been made for the installation and commissioning of a suitable electrical supply?			
2. Is a supply of fresh drinking water available?			
3. Have arrangements been made for the installation and commissioning of drainage systems for surface and foul water?			
4. Have arrangements been made for the supply of other types of heating fuel?			
5. Have arrangements been made for the installation of the required number of telephone lines and other forms of telecommunication links?			
6. Have appropriate measures been taken for the supply of stand-by power?			
7. Have arrangements been made for the design and installation of a 110 volt distribution system?			

Working at height	Y	N	N/A
1. Have arrangements been made for scaffolds to be erected, altered and dismantled by a competent person?			
2. Have arrangements been made for the statutory inspection of scaffolds to be carried out by a competent person?			
3. Will all work at height be planned, supervised and carried out by a competent person?			
4. In all cases, will work at height be carried out using the most appropriate means of access to height?			
5. Have arrangements been made to ensure that competent operators will be available for mobile elevating work platforms (MEWPS)?			

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6. Has consideration been given to whether the ground conditions are suitable for the use of MEWPs?			
7. Will a survey be carried out to investigate the existence of cellars, drains and other underground voids?			
8. Has consideration been given to the possible existence of overhead power lines or other high-level hazards?			
9. Will the use of ladders be restricted to tasks where it is not reasonably practicable to use an alternative, safer means of access?			

Excavations

	Y	N	N/A
1. Has suitable equipment been obtained to form an adequate barrier (for example guard-rails) around each excavation into which a fall could cause a person to be injured?			
2. Where installed, will the system of supporting the sides of all excavations be designed and installed by a competent person?			
3. Will a safe method of installing the supports, that does not involve anyone going into an unsupported trench, be employed?			
4. Will a safe means of access/egress be provided (where necessary) for each excavation?			
5. Where vehicles have to approach an excavation: 5.1 will they be under the control of a trained signaller?			
5.2 will anchored stop-blocks (or a similar device) be installed to prevent the vehicle over-running?			
6. Have arrangements been made for the statutory inspections of excavations to be carried out by a competent person?			
7. If the sides of the excavation are sloped or battered, is the angle of batter sufficient to prevent collapse?			
8. Has consideration been given to the possibility of any excavation affecting the stability of neighbouring structures?			
9. Will materials, spoil or plant be stored away from the edges of the excavation, to reduce the likelihood of collapse?			

The site office	Y	N	N/A
1. Have arrangements been made for the delivery and siting of adequate office accommodation, including carrying out any enabling work?			
2. Is the site office located so that it can be accessed without the need to wear PPE?			
3. Does the site office have a safe form of heating, with the fuel stored in a safe manner?			
4. Are the electrical circuits in the office protected by an RCD and regularly tested and inspected?			
5. Is there a suitable, fully stocked first-aid kit in the office?			
6. If the answer to 5 is 'NO', have alternative provisions been made for first aid?			
7. Is information on how to locate and identify first aiders displayed?			
8. Is a copy of the company Health and Safety Policy displayed?			
9. Have registers been set up for recording statutory inspections?			
10. Have other registers, as may be necessary, been set up?			
12. Are emergency plans and routes to the nearest hospital available?			

Welfare facilities	Y	N	N/A
1. Are adequate welfare facilities available in respect of:			
1.1 toilets which are adequately ventilated and lit?			
1.2 washing facilities (including showers if necessary), which are equipped with hot and cold (or warm) water, soap and towels or a means of drying?			
1.3 rest areas (including facilities for a female person who is pregnant, or a nursing mother, to lie down)?			
1.4 drying and/or changing rooms with secure lockers?			
1.5 where necessary, separate facilities for men and women?			
1.6 the cleaning and keeping in good order of welfare facilities?			
1.7 a supply of fresh drinking water complete with suitable cups, unless from a 'water fountain' or similar?			

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1.8	a means of preparing hot food?			
1.9	arrangements to enable food to be eaten in reasonable comfort (an adequate number of tables and chairs with backs)?			
1.10	a means of boiling water?			

First aid

		Y	N	N/A
1.	Have sufficient and suitable first-aid kits been obtained?			
2.	Has an assessment been made as to whether more extensive first-aid facilities are required?			
3.	Have 'travelling first-aid' kits been obtained for site vehicles and anyone who works in a remote location?			
4.	Are sufficient qualified first aiders available?			
5.	Are sufficient 'appointed persons' available?			
6.	Has initial or refresher first-aid training been arranged as necessary?			
7.	Has a scheme whereby first aiders can be quickly located and identified been implemented?			
8.	Has an adequate number of first-aid signs been obtained and displayed?			
9.	Has an accident book been obtained and made available?			

Fire safety

		Y	N	NA
1.	Has an adequate number of *serviceable* fire extinguishers of the appropriate type(s) been obtained?			
2.	Has an appropriate number of site-staff been trained in the selection and use of hand-held fire extinguishers?			
3.	Are fire extinguishers located at well-signed and easy to find fire-points?			
4.	Has an effective fire alarm system been devised?			
5.	Will everyone on site be made aware of what the fire alarm sounds like?			
6.	Has a means of preventing the accumulation of flammable waste material been established?			
7.	Have suitable and sufficient fire safety signs been obtained and displayed?			
8.	Have proper storage areas for flammable substances like LPG been established?			
9.	Will smoking be allowed in well-defined safe areas of the site and/or welfare facilities?			
10.	Have signs been erected to clearly define the boundaries of the areas in which smoking is allowed?			

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11.	Has equipment been obtained and positioned to enable the safe disposal of spent smoking materials?			
12.	Has a time been set each day, after which smoking is not allowed?			

Emergency procedures			
	Y	**N**	**N/A**
1. Has an emergency evacuation plan been drawn up and communicated to all on site?			
2. Will a nominated person monitor the evacuation plan and ensure that it is always up to date?			
3. Has an adequate number of 'evacuation wardens' been appointed and informed of their duties?			
4. Have one or more assembly points, which are a safe distance from the potential hazard, been selected?			
5, Have 'assembly point' signs been obtained and clearly displayed?			
6. Has everyone on site been informed of:			
6.1 the location of the assembly point to which they are to report in the event of an evacuation?			
6.2 what the evacuation signal sounds like?			
6.3 what to do when they get to the assembly point?			
6.4 the days/times when the evacuation signal will be tested?			
6.5 the fact that the evacuation plan will be periodically practised on a 'no-notice' basis?			

Personal protective equipment			
	Y	**N**	**N/A**
1. Has an assessment of the needs for personal protective equipment (PPE) been made, engaging the assistance and advice of a reputable supplier if necessary?			
2. Has everyone on site been issued with all of the PPE that they need to carry out the jobs allotted to them?			
3. Does everyone on site know how and where to obtain any extra PPE that they might need in the future?			
4. Does everyone on site know how to obtain replacement PPE for that which is lost or defective?			
5. Has a PPE issue log been started?			

Signs and notices	Y	N	N/A
1. Has a 'combination' safety sign been erected at each site entrance to inform everyone who needs access of the minimum standards of safety on site?			
2. Has an adequate selection of warning, prohibition, mandatory and safe condition signs been obtained and displayed?			
3. Has an adequate stock of other signs, such as traffic management signs, been obtained and displayed?			
4. Has a person been nominated to ensure that additional signs are erected and existing signs are moved or removed to reflect changing conditions as the job progresses?			

Waste disposal	Y	N	N/A
1. Have arrangements been made for the delivery of sufficient skips or other suitable containers to enable different types of waste materials to be stored?			
2. Have the arrangements for the segregation and disposal of waste been communicated to everyone on site?			
3. Has an area of the site that is readily accessible by large vehicles been set aside for the siting of skips?			

Environmental considerations	Y	N	N/A
1. Has responsibility for environmental management, monitoring and inspection been defined?			
2. Has the potential overall environmental impact of the project been considered?			
3. Have the project environmental issues been included in the site induction?			
4. Have measures been put in place to avoid or reduce the more obvious environmental problems, such as: 6.1 the spillage of environmentally damaging fluids? 6.2 any spillage that does occur is not able to seep into the ground, drainage systems or watercourses? 6.3 the management, storage and disposal of waste materials? 6.4 noise and dust pollution, arising out of construction activities? 6.5 the number and quantity of substances used that give off environmentally damaging vapour or fumes? 6.6 air pollution resulting from the unnecessary running of construction plant engines?			
5. Has the existence of protected species of mammals, insects, plants etc. been investigated?			
6. If protected species are known to be on site, have appropriate measures been taken to ensure that they remain undisturbed or undamaged?			
7. Have arrangements been defined to adequately deal with environmental emergencies such as the accidental release of oil and fuels?			

Action plan

If you have answered NO to any of the questions in the checklist, please provide further information in the columns below.

Human factors

Section	Question number	Action to be taken	By whom	Date for completion	Comments
Competence					
Consultation					
Co-operation					
Contact with the emergency services					

Site features and facilities

Section	Question number	Action to be taken	By whom	Date for completion	Comments
Existing buildings, features and ground conditions					
Site security					
Management of vehicular and pedestrian traffic					
Materials storage and lay-down areas					
Utility services					
Working at height					
Excavations					

Section	Question number	Action to be taken	By whom	Date for completion	Comments
The site office					
Welfare facilities					
First aid					
Fire safety					
Emergency procedures					
Personal protective equipment					
Signs and notices					

Section	Question number	Action to be taken	By whom	Date for completion	Comments
Waste disposal					
Environmental considerations					

Construction Site Safety

1.1.12 Security on Site

1.1.12.1 Key points

1 Site security must be effective both during and out of working hours.

2 Effective site security will keep children and other trespassers off the site; even outside working hours, construction sites can be hazardous places for the unwary, particularly children.

3 The nature of some sites means that whilst they cannot be completely fenced off from the public, for example scaffolds erected in public places, unauthorised access must be prevented.

Note: Section 1, Part 3 of the QCS covers site access and Section 1, Part 4 covers site protection.

1.1.12.2 Introduction

1 Security is a subject that in many circumstances is closely associated with health and safety on building, construction or civil engineering sites. A poor standard of security with the resulting risk of trespass, theft and damage can have implications for the health and safety of the trespassers and possibly the people who are authorised to be there.

2 There are several reasons why the security of a site might be breached, not all of which are malicious.

3 There are common examples of construction activities taking place in premises, which are still partially occupied by the owner, landlord, members of their staff and possibly members of the public. For example, where construction work is taking place in a:

(a) supermarket or department store that is still open to the public but is undergoing an extension or renovation

(b) newly built, partially occupied housing estate

(c) block of occupied flats undergoing maintenance or renovation.

4 It might be possible for unauthorised persons to inadvertently stray into the site quite innocently unless adequate security measures are taken.

5 However, in many cases, the reasons for trespass have been shown to be malicious. This is usually for the purpose of theft or criminal damage, both of which can have health and safety implications for site staff when they return to work.

6 Children might also try to gain access to sites out of curiosity and the mistaken belief that they are safe and 'fun' places to play.

7 Equipment designed to physically control access to sites is readily available. Even a modest investment (in terms of finance, time and effort) can easily result in a significant improvement in the standard of site security and therefore reduce the potential for financial and other losses.

8 Contractors must take all reasonable and practical steps to ensure that sites are secure, for example by:

(a) providing a perimeter fence not less than 2 metres high, either close-boarded or meshed (mesh not exceeding 30 mm)

(b) ensuring that the site access is gated and locked when the site is unoccupied

(c) maintaining reasonable surveillance when the site is open

(d) ensuring materials are not stacked dangerously near fences

(e) displaying suitable warning notices

(f) guarding or protect obvious hazards

(g) regularly inspecting perimeter fencing, especially for holes near the bottom or other damage through which children might gain access.

9 Where complete fencing of the site is impractical:

(a) guard or cover all excavations and holes where there is a danger of any person or any materials falling in. And, if left open or unattended, fence at every accessible part with a barrier, preferably of chain link fencing, not less than 2 metres in height

(b) effectively immobilise vehicles and plant

(c) stack materials to prevent any possible displacement and use racking where possible. This particularly applies to manhole rings, large diameter concrete pipes and cable drums, all of which could roll and crush a child

(d) lock off electricity supplies or switch off at isolators in locked enclosures or the building

(e) isolate gas supplies, keep cylinders in a locked enclosure

(f) keep all tools and harmful chemicals in a locked enclosure, when the site is unoccupied

(g) for ladders to elevated positions; block off the first 2 metres and chain all loose ladders or lock them in enclosures.

1.1.12.3 Site visitors

1 It can be taken that a 'visitor', for the purpose of these Regulations, can be anyone who is not an employee. Therefore, a visitor may be any person who is a lawful visitor with a genuine reason to visit the premises, or a trespasser, who at any time during the day or the night may be intent on committing a crime.

1.1.12.4 Lawful visitors

1 Examples of visitors who may have reason to visit construction sites and are:

(a) postmen/women and couriers

(b) telephone engineers and other communications specialists

(c) electricity, gas, telephone and water company employees

(d) visiting engineers and other construction professionals

(e) customers and other beneficial visitors

(f) Administrative Authority Workplace Inspectors

(g) QCS Inspecting Officers

(h) delivery drivers

(i) trainees.

1.1.12.5 Unlawful visitors and trespassers

1 Examples of unlawful visitors are:

(a) any person entering the site for the purpose of theft or to commit criminal damage

(b) any person entering the site by accident

(c) any (unauthorised) person deliberately passing through the site, e.g. as a short-cut

(d) children entering the site to play.

2 In respect of all trespassers, including those with criminal intent and children, it is illegal to set any form of trap or to deliberately do anything that is intended to cause injury to, or to damage the health of, the intruder.

1.1.12.6 Foreseeable risks

1 Employees may be well aware of the risks, and have safe systems of work, use protective equipment or have procedures that would be unknown to a visitor. In these cases, the occupier must make suitable provision for the protection of all visitors.

2 An example might be the provision of eye, foot or head protection where necessary, or barriers to keep visitors away from machines.

1.1.12.7 Children and young persons

1 If children or young persons are allowed on the premises (as children of customers, invited school parties, and so on), it must be remembered that they cannot be considered to have any concept of hazard and risk and cannot be expected to behave as would an adult.

2 Whereas an adult may stand behind a guardrail that is set at a height of 1 metre, a small child could walk under it. It may be necessary to install two intermediate guard-rails at 330 mm and 660 mm.

3 It should also be appreciated that children may not be able to read, understand or comply with safety signs and notices.

1.1.12.8 Site security and crime prevention

1 The crimes that cause the greatest problem on site include theft, criminal damage and arson.

2 While it may be usual to think about offenders being unauthorised people who come onto site to steal or cause damage, it must be remembered that a substantial number of offences are committed by employees either for the direct gain of what they steal or out of malice against the Contractors. It is not unknown for employees to damage property to delay the progress of work, so they can be employed for longer repairing the damage that they have caused.

3 Sometimes, site employees will give information to other persons who will later come and commit the crime. This is very often the case with regard to the theft of larger items of construction plant and equipment, or where substantial amounts of material are taken. Even if the offenders are caught, it is very difficult to identify the employee who passed on the information.

1.1.12.9 Managing security

1 The four most important things that can be done for site security are to:

(a) remove temptation by hiding from view any 'attractive' item that might tempt a potential thief

(b) make it more difficult for the trespasser to get onto the site or into the building

(c) make it harder for the trespasser to gain access to 'attractive' items if they do manage to get onto the site

(d) make it more difficult for the criminal to profit from their crime.

1.1.12.10 Removing temptation

1 This simply involves ensuring that 'attractive' items such as hand-held power tools are removed from view when not in use, particularly out of normal working hours. On sites surrounded by a solid hoarding, this should not be an issue.

1.1.12.11 Making it difficult for the trespasser to gain access to the site

1 The first consideration in attempting to make it difficult for the trespasser to effect an entry will include the provision of site fencing.

2 This should be at least a 2-m high security fence with the posts securely anchored. 'Mesh' type fencing, which includes 'anti climb' panels, can be hired. The panels have small gaps in the mesh to make it more difficult to obtain footholds.

3 Alternatively, a close-boarded wooden perimeter fence or hoarding, at least 2 m high, may be needed in a city or town centre site or at other high-risk premises.

4 An access control system that is computer controlled and efficient for access and egress to the project, together with an entry and exit turnstile is the optimum way of controlling pedestrian entry onto a site. Where computerized access is not in place a manual system of site access control must be in place.

5 Contractors may to hire the services of Security Companies to provide 24/7 security on their projects.

6 It should be remembered that if employees are used as security staff, they must be given the appropriate health and safety training before they start work, or whenever they are exposed to a new or an increased risk.

Guard dogs

1 As work on most sites only takes place during the normal working week, serious consideration must be given to 'out-of-hours' security.

2 Again, an assessment is needed and the use of guard dogs may be considered.

Locks, alarms and other security measures

3 If buildings are to be made secure, special attention should be paid to doors where high quality locks should be used. Windows may need to be protected by steel grilles as well as locks. The use of padlocks, other than very high security padlocks, is questionable, as criminals using bolt croppers frequently cut the exposed shank.

4 The walls of a building are not very often broken through but it is reasonably common for criminals to gain access through ceilings, particularly to get into shop premises.

5 It is relatively common for thieves to use cutting equipment to enter storage containers. There are a number of proprietary products, particularly toolboxes/chests, which advertise that they are designed to be more thief resistant.

6 A burglar alarm, whilst not adding anything to the physical security of premises, may well deter a criminal from trying to break in, or cause them to run away without stealing anything when the alarm sounds.

7 If perimeter fencing is to be made secure, special attention should be paid to entrance gates, in respect of which high quality locks should be used.

1.1.12.12 Making it harder for the criminal to steal or damage anything

1 Because of the nature of building, construction and civil engineering activities, it is difficult to have a totally secure site. As unlawful visitors will get onto site occasionally, and some employees may be dishonest, measures need to be taken to prevent criminal offences from being committed. There are two main areas where action can be taken to make it harder for people to steal property:

(a) put it somewhere where it cannot be stolen

(b) secure it or immobilise it.

1.1.12.13 Making it more difficult for the criminal to profit from their crime

1 This is something that can easily be done with all property that may be stolen, and is probably one of the most cost-effective areas of crime prevention.

2 A simple example is with scaffolding, where many companies, ever mindful of the risk of theft, paint their tubes and fittings with brightly coloured bands. It becomes immediately obvious that something is wrong if they appear on another contractor's site.

3 Highly visible markings may be a deterrent, but professional criminals are still prepared to steal items and then remove the markings.

4 The rising value of metals has made some crime even more lucrative, as there is little need to consider the risks associated with resale and reuse if the stolen item is simply exported for reprocessing. It is important to consider at what stages of construction progress a site is more likely to be the target of theft. For example, one strategy is to move to a full-time security presence at second fix and to install high value white goods immediately prior to handover/practical completion.

1.1.12.14 Construction plant and equipment

1 The health and safety implications if the equipment is not there, or has been damaged, may be that the job cannot now be done properly or safely. Often shortcuts are taken and such 'makeshift' or temporary works will expose employees to additional risks to their health and safety.

2 Where possible, isolate plant and machinery at the end of each shift, and park it in a secure area such as a plant compound that is locked and visible to site security.

1.1.12.15 Photographic evidence of ownership

1 It can be difficult to identify stolen property because many people have no idea what a compressor, excavator or a backhoe loader really looks like. Photographs of plant and equipment are useful when trying to describe stolen items to the police or to your insurance company, especially when they are not common or standard pieces.

1.1.12.16 Security of plant

1 Security of plant has implications for health and safety on building, construction or civil engineering sites as well as for the financial viability of a company.

2 Having a well-managed security programme, to restrict the theft of equipment, may help in reducing premiums to insurance companies.

3 The theft of plant which is not properly secured, or that can be moved or started, could have serious financial consequences for a company.

4 The actual cost of security arrangements can be insignificant when compared with the financial loss that theft incurs.

5 Costs which may be encountered could be in terms of production time lost due to missing equipment, the administration in acquiring replacement equipment, as well as dealing with the police and insurance companies.

6 Losses may also be incurred due to the damage caused to plant and equipment by unsuccessful theft or by wanton vandalism, such as broken cab windows or spray paint graffiti. Steps must be taken to minimise the possibility of either.

1.1.12.17 Site security and crime prevention

1 Theft of plant and equipment is one of the most common crimes that occur on site, some by chance and some to order. The damage that the thief does in trying to steal the plant can be substantial, not only to the plant but also to perimeter fencing, even if the theft fails.

1.1.12.18 Managing the security of plant and equipment

1 An overall theft prevention plan should be produced and constantly reviewed. Each of the anti-theft methods outlined in the following, and the ways to identify and locate plant, should be considered as part of this plan.

2 There tends to be a lack of responsibility by people towards the security of plant, tools and equipment, particularly where these are hired in.

3 It is the responsibility of management to ensure that staff are aware of the problems created by plant theft, including the possible effect on the company's viability and the consequent damaging effect on jobs.

1.1.12.19 Closed circuit television (CCTV)

1 As the cost of closed circuit television (CCTV) has reduced, the affordability and wider use of the equipment has made the deterrent effect of its use considerable.

2 Cameras need to be well placed and:

(a) capable of viewing the perimeter in darkness, with or without the aid of security lighting

(b) difficult for a thief to interfere with or steal.

3 On an unstaffed site, it is essential that the potential criminal knows recording is taking place and that the recorder itself is in a secure location.

1.1.12.20 Put it somewhere where it cannot be stolen

1 On most sites, small, valuable hand tools and pieces of plant or equipment will be locked in a site hut or tool store, or in a secure tool chest out of sight. The storage place should be as substantial and secure as possible so that it is difficult to break into.

2 If a mobile tool store or chest is used, it should be recognised that some types of site equipment and lorry-mounted cranes can be used to lift or drag tool chests and stores onto a vehicle and stolen intact with their contents.

3 They should, therefore, be put in a secure site hut or container and securely bolted or welded to the floor. If the tool store or vault has to be left externally, it should be bolted to a concrete floor or block, or chained to an immovable object.

4 Often high security steel freight containers are used. These have no windows, virtually impenetrable walls, floors and roofs, and doors that are designed to be securely locked. This is a great advantage over the average site hut, which is usually a portable building with no integral security features beyond normal door locks.

5 When using these containers, however, it should be remembered that they must never be used for the storage of LPG cylinders or any other gas bottles, or quantities of solvents. There have been instances when cylinders and gas bottles have leaked overnight, allowing a dangerous build-up of gas inside the container.

1.1.12.21 Secure it or immobilise it

Non-driven mobile plant and trailers

1 Non-driven mobile plant and trailers should be immobilised by the use of specialist mechanical devices, such as eye-locks and wheel clamps, and should also be secured by a security chain to an immovable object, thus preventing lifting by lorry-mounted cranes or other site equipment.

2 Their visibility acts as a deterrent. Removal requires much physical effort and time and the use of specialised tools. Their removal is also likely to be accompanied by noticeable noise and light.

3 Immobilisation could also include smaller items being chained to larger items of plant, concrete posts or steel columns.

4 'Security' chains should be strong enough to defeat files, hacksaws, levers and large bolt croppers, and be difficult to attack with power tools.

5 Where possible, chains should be kept off the ground as this makes attack more difficult.

Driven plant

6 Larger items of driven plant and equipment that cannot be put into a store should be immobilised by simple specialist mechanical or electronic devices.

7 It should be appreciated that the smaller the plant, the less likely it is that an electronic immobiliser can be adequately concealed and that mechanical devices will be more practical. Mechanical devices can immobilise stabiliser legs, steering mechanisms, excavator booms and tracks.

8 On items of plant such as large earthmovers, road graders and large dump trucks, or where the machine is complex, it is easier to conceal an electronic immobiliser. A mechanical device to do the same job would be too large to manually handle.

9 Many pieces of plant have either mechanical devices and/or electronic devices fitted by the manufacturer at the time of manufacture. All aspects of their operation should be understood and full use made of them when the item of plant is left.

10 When the plant is left overnight or longer, there should be a disciplined approach to security. The plant should be parked in a location where any wrongdoing would be noticed by passers-by and away from easy access by a lorry-mounted crane to reduce the possibility of it being lifted off site.

11 The ignition keys should be removed which will, in many instances, set an alarm and an immobiliser. If the alarm or immobiliser does not set automatically then it must be set manually.

12 A mechanical immobilisation device, where fitted, should be in such a position that it is visible to passers-by to ensure any suspicious tampering is noticed. If such mechanical devices allow equipment to be locked together, then this facility should be used whenever possible.

13 Immobilisation could also include smaller items being chained to larger items of plant.

14 Any labels supplied by the manufacturer that indicate that immobilisation devices are fitted should be prominently displayed.

1.1.12.22 Create a series of barriers

1 One of the key problems for any prospective thief is lack of time, and overcoming barriers is time consuming. For instance, a fence or gate may be the first barrier to overcome, the second a security container, the third a security chest or a series of physical locks and chains within the container.

2 Individually each barrier might not present the prospective thief with too much difficulty but, added together, they may prove so time consuming that the thief abandons the attempt.

3 Similarly, for larger equipment, fencing is the first barrier. The secure location of the equipment, and the setting of mechanical and electronic immobilisers, then adds further barriers, increasing the difficulty and the time required to overcome them.

4 A bright corporate colour scheme for all pieces of plant owned by a Contractor, as well as the vans and lorries visiting the site, dissuades the thief. It identifies the equipment and makes it more difficult to resell without repainting. Also, when a van or truck parked next to the plant is not in the same corporate colours, and any work being undertaken is suspicious, it can alert passers-by.

5 Painting plant and equipment in corporate colours could be used as part of an overall theft prevention plan.

1.1.12.23 Recovery of plant and equipment

1 Once stolen equipment has left the site, the cost of inconvenience has started to mount up. Although any subsequent recovery device will mitigate the final cost of the theft, it will not change the cost of lost time and administration.

Stolen vehicle and plant location

2 A popular way of recovering plant is through a tracking device. This relies on the ability of the police or a central monitoring station to locate the plant through signals emitted from devices located on the equipment.

3 Although the success of recovering plant fitted with trackers is high, thieves are becoming more sophisticated in their actions and technology, and are finding ways to neutralise the devices.

1.1.12.24 Keys

1 Another recommendation is the elimination of single keys for plant. (As with cars, some sets of keys will give access to a variety of vehicles, not necessarily of the same make or year of manufacture.) Plant manufacturers will eventually undertake this move, but until all machines have different keys, the fitting of either a mechanical or electronic immobilisation device, or both, is essential.

2 Whilst manufacturers will also be upgrading the security of cabs and canopies, it is still necessary to lock them to reduce the possibility of hot-wiring plant to start it or the damage caused whilst trying.

1.1.12.25 Plant theft - summary

1 Among the items most commonly stolen are mini-excavators, floodlighting equipment, generator sets and compressors. All are of high value and relatively portable. Once removed from site, they may prove impossible to track down.

2 Construction plant or equipment that is securely locked, immobilised, and clearly and visibly marked is less likely to be stolen than plant which is not secured or marked.

3 Equipment that is fitted with an electronic tracking device or is registered with a database is more likely to be recovered after being stolen.

4 Electronic tracking devices may be active or passive. Active devices allow the owner to know exactly where the item of plant is at all times, while passive devices are only activated once that piece of plant has been stolen or unlawfully removed.

Construction Site Safety

1.1.13 Statutory Forms, Notices and Registers

1.1.13.1 Key points

1 The selection of the forms or notices, etc., will necessarily be as appropriate or applicable to the individual site or premises, and the circumstances that exist on that site.

1.1.13.2 Statutory Forms, Notices and Registers

Accident Book

1 The keeping of an accident book is required by these Regulations

2 All accidents that cause any injury to an employee, no matter how slight, must be entered. Entry may be made either by the employee or anyone acting on their behalf.

3 Completed book stubs and records must be kept for three years from the date of the last entry.

4 F100 Report of an injury or dangerous occurrence (Pad of forms) Injuries

5 Form F100, report of an accident or dangerous occurrence, is required by RIDDOR - The Reporting of Injuries, Diseases and Dangerous Occurrences.

6 Unless notification has been made by telephone, fax, email, Form F100 must be completed and sent by the person completing the report to the Administrative Authority which is the Administrative Authority, this action is required under the following circumstances:

7 If an employee or other person dies or suffers any major injury as a result of an accident at work.

Note: (i) This type of accident must also be reported immediately by the quickest practical method (usually the telephone).

Note: (ii) A major injury or serious condition such as:

(a) any fracture of any bone other than the fingers, thumbs or toes

(b) any amputation, the dislocation of the shoulder, hip, knee or spine

(c) the loss of sight (whether temporary or permanent) or any other listed eye injury

(d) electric shock or burn causing unconsciousness

(e) any injury leading to hypothermia, heat-induced illness or to unconsciousness requiring resuscitation or admittance to hospital for more than 24 hours

(f) unconsciousness due to asphyxia or exposure to a harmful substance or biological agent

(g) acute illness or unconsciousness caused by any poisoning by any route

(h) acute illness caused by exposure to infected material or a biological agent

(i) if an employee has an accident at work and is unfit or is off work for more than three days (weekends and rest days included) as a result of the accident.

Dangerous occurrences

8 Form F100 must be sent to the Administrative Authority whenever a scheduled dangerous occurrence has occurred. Alternatively, notification may be given by telephone, fax or email.

9 Dangerous occurrences listed include (briefly):

(a) collapse, overturning or failure of any load-bearing part of any lift, hoist, crane, derrick, mobile powered access platform, access cradle, window cleaning cradle, excavator, piling rig or forklift truck

(b) explosion, bursting or collapse of any closed vessel, boiler, etc.

(c) contact with, or arcing from, any overhead electric cable caused by any plant or equipment

(d) electrical short-circuit with fire or explosion

(e) explosion or fire caused by any material resulting in stoppage of work or plant for more than 24 hours

(f) uncontrolled release of 100 kg or more of a flammable liquid, 10 kg or more of a flammable liquid above its normal boiling point or 10 kg of a flammable gas, inside a building, and 500 kg or more of such substances outside a building

(g) collapse or partial collapse of any scaffold over 5 metres in height or fall of any cradle, etc.

(h) collapse of 5 tonnes or more of any building or structure, or any falsework, or any wall or floor in any workplace

(i) uncontrolled release of any biological agents

(j) accidental ignition of any explosive

(k) failure of any load-bearing part of a freight container

(l) bursting, explosion or collapse, or fire involving a pipeline

(m) specific incidents involving road tankers

(n) specific incidents involving dangerous substances being conveyed by road

(o) escape of any substance in a quantity sufficient to cause death, injury or damage to health

(p) malfunction of any breathing apparatus whilst in use or when being tested before use

(q) contact with or arcing of any overhead power line.

F100A Report of a case of disease

10 A report on form F100A is required by RIDDOR the Reporting of Injuries, Diseases and Dangerous Occurrences.

11 It must be sent, by the person completing the report, to the Administrative Authority, when a registered medical practitioner has diagnosed in writing that an employee is suffering from a scheduled reportable disease

AND

12 the person has been employed in a scheduled work activity by the Contractors.

13 Alternatively, notification may be given by telephone, fax or email.

COSHH assessments, etc.

14 The Control of Substances Hazardous to Health require assessments to be made of substances hazardous to health and, except in the simplest and most obvious of cases, for the assessments to be written and kept accessible for those who need to know the results. This specifically includes safety representatives.

15 If health surveillance is appropriate, the health records of employees under health surveillance must be maintained and kept for 40 years after the date of the last entry.

16 All mechanical control measures, such as dust extraction, must be subject to routine examination in accordance with the Regulations and records kept.

17 Substances hazardous to health must be properly labelled.

Danger areas

18 Identify with signs

19 Dangerous substances and explosive atmospheres

Dangerous substances

20 A substance or preparation which is explosive, oxidising, extremely flammable, highly flammable or flammable, or any dust which can form an explosive mixture with air or an explosive atmosphere.

Explosive atmosphere

21 A mixture, under atmospheric conditions, of air and one or more dangerous substances in the form of gases, vapours, mists or dusts in which, after ignition has occurred, combustion spreads to the entire unburned mixture.

22 Where an explosive atmosphere may occur, a specific sign is to be erected.

23 The sign must consist of black letters on a triangular yellow background with black edging.

Diving

24 Records have to be kept of the written appointment of all diving supervisors and of the qualifications and medical certificates of divers. All dives have to be recorded in the divers' log books. Diving rules have to be in writing.

Electrical equipment

25 All electrical equipment, including portable equipment, should be inspected on a regular basis by a competent person and records kept. Portable electric tools should be PAT-tested on a three-monthly basis, with a sticker showing the test date and the date the next test is due fixed to each item.

Electric shock placard

26 Notices or placards giving details of emergency resuscitation procedures in the event of an electric shock should be displayed in locations where people are at an enhanced risk of electric shock.

Emergency evacuation

27 Emergency routes and exits must be established and indicated by suitable signs.

Excavations, cofferdams and caissons

28 Excavations, cofferdams and caissons must be inspected and written reports of the inspections made.

Explosives

29 Possession of explosives requires an explosives certificate which is issued by the local Chief Officer of Police.

30 Detailed records have to be kept of all movements or usages of explosives.

Falsework

31 It is required that records should be kept of all design calculations, drawings, estimated loadings and specifications for falsework, together with written permissions to pour concrete or to 'load' falsework, and to dismantle it.

Fire

32 Documentary information relating to fire safety should include:

(a) records of staff training in the use of extinguishers

(b) record of fire extinguisher servicing

(c) record of practice evacuations

(d) written fire risk assessment and a written fire safety plan.

First aid

33 First-aid notices are required to be displayed as an effective means of informing the workforce of the Contractors arrangement for first aid.

Food hygiene

34 Toilets adjacent to food rooms must be separated by a lobby. A notice stating 'NOW WASH YOUR HANDS' must be displayed.

35 Employees in food rooms must not smoke. A notice is displayed to that effect. Checks and inspections of equipment and staff training should be recorded. Certificates of staff training in food hygiene and handling must be displayed.

Fragile surfaces

36 Appropriate warning notices must be clearly displayed at all approaches to the area.

Hazardous substances

37 All containers containing hazardous substances should be clearly marked with their contents and the appropriate hazard warning symbol.

38 Assessments must be made and, with minor exceptions, recorded.

Health and safety policy

39 The policy must be brought to the notice of all employees.

Holes in floors and similar openings

40 If a cover is used over a hole, it must be bolted on the slab and clearly marked to show its purpose. Also, guardrails must be placed around these holes and similar openings.

Ionising radiation

41 The appropriate warning signs and notices for controlled areas must be displayed.

Lifting operations

42 All machinery and accessories used for lifting are marked to indicate their safe working load for each configuration in which they can be used.

43 Lifting equipment designed to lift persons is clearly marked as such.

44 Lifting equipment not designed for lifting persons but which could be easily mistaken for such is marked appropriately.

45 All lifting equipment and accessories are subjected to a scheme of thorough examination. Records of thorough examination are made and kept available for inspection.

46 All lifting equipment and accessories are to be visually inspected by competent person before and after every use.

Management of health and safety

47 Method Statement and Risk Assessments must be made of all work activities and the significant findings must be recorded.

48 Health surveillance, if it is needed, individual health records must be kept.

49 Emergency procedures need to be communicated and displayed.

Manual handling

50 Assessment to be made where risks from manual handling cannot be avoided. It is required that all but the most simple assessments should be recorded.

Noise

51 Hearing protection zones need to be identified by means of a sign.

52 A hearing protection zone is anywhere where an employee is likely to be exposed to a daily personal noise exposure of 85 dB(A) or a peak sound pressure of 137 dB(C).

Plant and equipment

53 If it is not otherwise provided for, it is strongly recommended that all plant, tools and equipment are subject to inspection and examination, and proper records kept.

54 A daily inspection and a six-monthly examination may be appropriate.

Pressure vessels

55 All pressure vessels intended to contain air or nitrogen at a greater pressure than 0.5 must have details of the maximum working pressure, maximum and minimum working temperatures, and cubic capacity clearly displayed on it.

Protective clothing and equipment

56 Assessment of the need for personal protective equipment. In all but the simplest cases the assessments should be recorded.

Safety representatives and safety committees

57 **Where a safety committee has been established, proper minutes and records should be kept.** Safety representatives may give written reports to management concerning safety in the workplace.

Scaffolding

58 (1) Display of 'Incomplete scaffold notice.

59 Designated 'danger areas' must be created where there is a risk of a person falling or being hit by a falling object. In the case of incomplete scaffolding, suitable notices must be displayed to discourage attempted access on to the scaffold.

60 (2) Reports of inspections

Steam boilers

61 The maximum working pressure of any steam boiler must be clearly marked. Boilers must be inspected at the scheduled intervals and proper records kept.

Training

62 It is most strongly recommended that all such information, instruction and training is properly and fully recorded so that Contractors are in a position to prove that duties under these Regulations have been met.

VDUs - Visual display units or display screens

63 Suitable and sufficient analysis of workstations for the purpose of assessing health and safety risks. All but the simplest and obvious cases must be recorded.

Work equipment

64 Maintenance, records of maintenance, written instructions. Maintenance log should be recorded. All work equipment must be marked in a clearly visible manner where necessary, in the interests of health and safety.

65 Warnings, audible or visible, to be incorporated into work equipment as necessary.

Working at height

66 Any training carried out to achieve competency should be recorded. Where any person at work may pass across or near to a fragile surface, or actually work on it, prominent signs indicating that it is a fragile surface must be fixed at every approach to that place. Where any person could be injured by falling or being hit by a falling object, 'danger areas' must be created to prevent such an occurrence. Danger areas must be clearly indicated, usually by signs and/or barriers Where inspections of work equipment are carried out a record of the inspection must be made and retained as specified.

Safety signs

67 All signs giving health or safety information or instructions must comply with the relevant British Standard. A safety sign is anything that combines geometrical shape, colour and pictorial symbols to give safety information.

END OF PART