



Occupational Health Management in the Quarry Industry



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The logo for Tarmac, featuring the word "Tarmac" in a green, sans-serif font, followed by a stylized yellow and green graphic element.The logo for private health care, featuring the words "private" and "health care" in a blue, serif font, with a yellow heart shape above the text.The logo for LAFARGE AGGREGATES, featuring a green stylized "L" shape to the left of the words "LAFARGE" and "AGGREGATES" in black, sans-serif font.The logo for AGGREGATE INDUSTRIES, featuring a blue stylized "A" shape above the words "AGGREGATE" and "INDUSTRIES" in green, sans-serif font.The logo for Johnston Roadstone, featuring a blue stylized "J" shape to the left of the words "Johnston" and "Roadstone" in blue, sans-serif font.The logo for IMERYS, featuring a grey stylized "I" shape to the left of the word "IMERYS" in black, sans-serif font.The logo for QUARRY PRODUCTS ASSOCIATION, featuring the words "QUARRY", "PRODUCTS", and "ASSOCIATION" in white, serif font, stacked vertically inside a blue square.



FOREWORD

The Government's Revitalising Health and Safety Strategy set national targets for reducing work-related accidents and ill-health. Through the Hard Target Initiative, the quarry industry has achieved a significant reduction in accidents, and it is now time to pay equal attention to the management of health risks.

This guidance, developed by the Quarries National Joint Advisory Committee (QNJAC), provides a framework which can be followed by all employers, from small businesses to major national companies.

I welcome and fully support the advice given, and recommend all engaged in the industry to act upon it, and to continue to build on the success that has so far been achieved.

James Barrett

James Barrett
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1. MANAGING RISK TO ENSURE FITNESS FOR WORK

All sectors of the economy are continually challenged to improve all aspects of their performance, and quarrying is no different. To survive, companies must enhance performance and control costs. An effective process for managing the health and well being of the workforce will make a significant contribution to an organisation's efficiency and support their quest to gain competitive advantage.

The overriding ethos should be to ensure that employees and contractors maintain a level of fitness that enables them to maximise their contribution to the businesses' goals.

To achieve this the organisation will need to establish a suitable support structure engaging both managerial and medical resource to ensure their workforce remains 'fit for work' throughout their employment with the company.

The management of occupational health should be an integral part of an organisations' risk management process. The emphasis should be on anticipating harm before it arises and initiating actions to prevent ill health occurring. The hierarchy of risk control should be followed and exposure avoided or effectively controlled. In the event that exposure to a substance or condition cannot be controlled within a given exposure limit then appropriate Health Surveillance should be considered.

In adopting a 'health assurance' approach the employee's health should be a matter of concern to an organisation from the time immediately prior to appointment (i.e. pre-recruitment) until the employee leaves or retires.

This will require periodic monitoring of an employee's health whether by discussion with their manager/supervisor, questionnaire or medical screening. The purpose of such monitoring is to confirm that the employees' ongoing level of fitness remains appropriate to the role they are required to undertake.

Following injury or periods of ill health, suitable rehabilitation programmes should be implemented, the objective being to minimise the recovery period and enable the employee to return to their normal occupation at the earliest opportunity.

The "Five Steps Approach" to risk assessment

- | | |
|---------------|--|
| Step 1 | Identify the significant hazards in the workplace that have the potential to cause ill health. |
| Step 2 | Decide who might be harmed and how this harm could occur. |
| Step 3 | Evaluate the risk and determine the adequacy of the precautionary measures currently deployed. If on analysis the precautions are unsatisfactory then the improvements required will need to be determined and planned for. |
| Step 4 | Record the significant findings. |
| Step 5 | Review the risk assessment regularly and revise if circumstances have changed. |

The risk assessment must be a suitable and sufficient analysis of the way people actually work to determine the level of actual exposure

Risk Control Hierarchy

- 1. Remove** the Hazard.
- 2. Avoid** the Hazard.
- 3. Prevent** Exposure -segregate personnel from the hazard, providing physical barriers if necessary.
- 4. Minimise** Periods/Levels of Exposure.
- 5. Define a Safe System of Work**, issuing Permits to Work where appropriate.
- 6. Train** personnel in the nature of the risk and the expected behaviours during periods of exposure.
- 7. Provide Personal Protective Equipment (PPE)** only when the above opportunities have been reviewed and discounted or as a precautionary measure

Remember a safe place is better than a safe system.

2. WHY CARRY OUT HEALTH SURVEILLANCE?

Whilst there are statutory requirements to carry out health surveillance when workers are exposed to certain agents (e.g. lead, asbestos, those listed in Schedule 6 of COSHH), in practice it is unlikely that most of these agents will be found in the quarry industry. However health surveillance is still legally required under other circumstances.

The Management of Health and Safety at Work Regulations 1999

These require that *"every employer shall ensure that his employees are provided with such health surveillance as is appropriate having regard to the risks to their health and safety which are identified by the risk assessment"*.

The criteria for carrying out occupational health surveillance are:

- There is a reasonable likelihood that the disease or condition may occur as a result of work activities assessed
- There are valid techniques to detect the condition at an early stage
- There is a reasonable likelihood that the disease or condition will occur in the particular circumstances of the exposure
- That health surveillance will be of benefit to individuals or groups of workers

The objectives of the health surveillance are to:

- Detect adverse health effects early
- Prevent further harm being caused

The potential benefits are:

- Identifying individuals affected
- Checking the effectiveness of the control measures in the workplace
- Providing feedback on the accuracy of risk assessments

Employers should in the first instance carry out a workplace risk assessment to identify where workers may be at risk from health hazards. When it is considered that even with control measures in place, people will still be at risk, the occupational health surveillance will only be appropriate if the criteria listed are met.

Quarries Regulations 1999

In addition, the Quarry Regulations require that pre-employment medicals are undertaken. These assessments should be part of the selection procedure and a condition of employment.

Pre-employment health assessments to ensure that the person is fit for the duties they will be required to perform. A "baseline" is then known against which any deterioration in the employee's health can be determined. If problems are detected changes to duties, work patterns etc. can be made early ensuring future health problems are avoided.

Occupational health professionals can advise companies on a package of measures for determining the suitability of candidates for the occupation under consideration. This may include the use of health questionnaires together with medical examinations where appropriate. These procedures can provide valuable baseline data for future health surveillance programmes.

Contractors

The occupational health approach to contract labour is widely regarded as a grey area and difficult to manage. Contractors can be defined as:

“Any individual who undertakes work on site at an operation, in a part-time or full-time capacity, but is not an employee of that operation”.

Regulation 11 of the Management of Health and Safety at Work Regulations 1999 (MHSWR) requires co-operation and co-ordination between employers who share a workplace. Where a particular employer controls the workplace, others should assist the controlling employer in assessing the shared risks and co-ordinating any necessary measures. The responsibility for carrying out health surveillance rests with the contract workers' employer.

Companies who use contractors need to gain assurance that the contractor is managing occupational health and safety in accordance with legal requirements. This applies particularly if arrangements for occupational health services for contractors are different from that of employees.

Information regarding occupational health risks and occupational hygiene information should be passed onto the contractors, as required under Regulation 12 of MHSWR.

Further Information

Control of Substances Hazardous to Health Regulations 1999, Approved Codes of Practice, ISBN 0 7176 1670 3

Management of Health and Safety at Work Regulations 1999, Approved Code of Practice and Guidance, L21, 2000, ISBN 0 7176 2488 9

Health and Safety at Quarries, Quarries Regulations 1999, Approved Code of Practice L118, 1999, ISBN 0 7176 2458 7

3. HOW SHOULD OCCUPATIONAL HEALTH SURVEILLANCE BE CONDUCTED? Standards of Practice

All health surveillance should be conducted professionally by competent persons and in accordance with current legislative requirements and the principles of good Occupational Health practice. It should be carried out in the context of mutual understanding and benefit, and with due respect for the responsibilities of the employer and the duties and rights of the individual employee.

Consultation between employers, employees and/or their representatives is a key precursor to any successful health surveillance programme. It should encompass the nature, purpose and methodology of the screening, and include important issues such as: -

- the agents to which employees may be exposed
- the potential health effects of those agents, and the likely signs and symptoms
- the risk the agents pose in the circumstances in which they may be encountered
- the content and methods of the proposed surveillance
- the benefits of the programme
- the outcomes of the surveillance
- the handling of information derived from surveillance – storage, retrieval and disclosure to management/employees such that the employer can comply with any statutory requirements and manage all health risks effectively.

All persons participating in the delivery of a health surveillance programme are required to act responsibly and reasonably. Health surveillance is usually targeted at the hazards encountered, and the risks they pose. Health surveillance techniques may range from simple questions about work-related symptoms to more sophisticated tests such as lung function and audiometry. It can be conducted in-house by non-medically qualified personnel provided they understand the hazards and risks involved, and can record information such as symptoms and signs of disease accurately. Some assessments require the involvement of qualified occupational health professionals, particularly where clinical judgements are required. Regardless of who carries out health surveillance, the information gathered must be handled sensitively and confidentially throughout, in accordance with the Access to Health Records Act 1990, the Access to Medical Reports Act 1988 and the confidentiality of the employee.

Employees should be given the opportunity to ask questions or raise concerns about their health during the surveillance process, both related to their work and to their general health, as both can have serious occupational consequences. They should also be provided with appropriate feedback about the results of their assessments, together with advice about how to protect their health at work, and improve their general health. Of particular importance is the opportunity that health surveillance provides for employees to be reminded of their duty to comply with health and safety procedures, e.g., wearing hearing protection.

Healthy lifestyle

Health surveillance provides a unique opportunity to promote not only work related health, but also general health and well being. Employers are increasingly recognising the value of including health promotion in their health surveillance programmes. Issues such as smoking, alcohol, mental, cardiovascular and sexual health can be incorporated. Investigations such as blood tests (for cholesterol and lipids, liver and kidney disease, diabetes, prostate function) and electrocardiographs can be undertaken with minimum discomfort and disruption.

Employees feel valued as a result, and appreciate the opportunity to discuss issues which they might not otherwise have the time to raise with their GP. They are less likely to feel that the health surveillance is just for the employer's benefit, and more likely to participate willingly in the programme.

Disability Discrimination Act 1995 (DDA)

Employers have a duty to acknowledge any disability as defined by the Act, and to make reasonable adjustments to the employee's work/workplace to accommodate a disability if practicable. Occupational Health Practitioners will endeavour to advise the employer about a disability to assist them in meeting the requirements of the Act, and ensure that the employee's health and welfare are protected at work.

Further information about the DDA is available:

The DDA 1995 – what employers need to know. Disability Rights Commission, www.drc.gov.uk
What does the DDA mean for you? www.managingabsence.org.uk/default.asp?section=dda

Record keeping and confidentiality

Good communication is essential if the objectives of a health surveillance programme are to be met. The results of the programme should be used to enhance existing health and safety control measures. Appropriate records should be maintained by both the employer and the Occupational Health provider.

Employers are required to keep specific **Health Records** under the Control of Substances Hazardous to Health Regulations 2002. These records should contain information relating to the general outcome of surveillance (i.e., investigations undertaken, the dates involved, whether fit/unfit, etc.) but are not confidential as such. The results should be linked to data resulting from Occupational Hygiene surveys to contribute to the monitoring and improvement of controls. Health records need to be sufficiently detailed to allow employers to monitor the prevalence of occupational health diseases over time and evaluate the effectiveness of their occupational health programmes.

The COSHH Regulations provide the following information on health records:

1. *A record containing the following particulars should be kept for every employee undergoing health surveillance:*
 - (a) *Surname, forenames, sex, date of birth, permanent address, postcode, national insurance number, date of commencement of present employment and a historical record of jobs involving exposure to substances requiring health surveillance in this employment.*
 - (b) *Conclusions of all other surveillance procedures and the date on which and by whom they were carried out. The conclusions should be expressed in terms of the employee's fitness for this work and will include, where appropriate, a record of the decisions of the employment medical adviser or appointed doctor, or conclusions of the medical practitioner, occupations health nurse or other suitably qualified or responsible person, but not confidential clinical data.*
2. *Where health surveillance consists only of keeping an individual health record, the particulars required are those at 1 (a) above.*

Medical Records should be kept securely by the provider, whether in-house or out-sourced. Only the relevant employee, authorised personnel (physicians/nurses), and those with the express written permission of the employee should have access to the medical records.

An individual's medical records are confidential and professionals carrying out health surveillance are subject to the usual standards of medical ethics. The results of any surveillance programme should only be disclosed generally in such a manner that individuals cannot be identified, except where the employee has given written consent for such disclosure.

Before commencing an occupational health surveillance programme it is important to consult thoroughly with the workforce so that they are aware of:

- the agents to which they are exposed
- the effects of those agents and therefore what signs and symptoms to look for
- the benefits to be gained from the programme
- the consequences of the surveillance
- issues surrounding the disclosure of information which is necessary in order to enable the employer to comply with statutory requirements.

As well as specific testing techniques e.g. audiometry, lung function testing and vision screening as appropriate, appropriate health screening questionnaires should form part of the surveillance programme. Parallel with the programme, sickness absence should also be analysed to determine whether there are any patterns, which might indicate occupationally related health problems.

4. WHO SHOULD CARRY OUT THE PROGRAMME?

Health surveillance can be carried out at several levels depending upon the complexity of the health effect being monitored. Supervisors, with some training, can recognise the onset of many conditions and have the great advantage of being in daily contact with the workforce. An occupational health nurse can administer standardised tests, such as audiometric testing, lung function tests etc.

A doctor with appropriate qualifications and experience would be required to carry out more detailed clinical examinations such as assessments of severity of hand-arm vibration syndrome (HAVS).

Occupational Medical Practitioners

Occupational medicine is not covered by basic medical training and qualification, and those practitioners responsible for organising occupational health surveillance and advising employers regarding occupational medicine should have carried out postgraduate training and have clinical experience in this field of medicine. Those doctors who have the following letters after their name have had such training and experience.

- FFOM Fellow of the Faculty of Occupational Medicine
- MFOM Member of the Faculty of Occupational Medicine
- AFOM Associate of the Faculty of Occupational Medicine
- D.Occ.Med Diploma in Occupational Medicine
- DIH Diploma in Industrial Health

Standards for health surveillance practitioners

Anyone carrying out occupational health surveillance must be competent and suitably qualified. There is presently no recognised professional association for those carrying out health surveillance, but it is recommended that people carrying out the following tests should have the training described.

Lung function

Any practitioner undertaking lung function testing in the field should have attended a course and obtained a certificate of competence from the Association of Respiratory Technicians and Physiologists. This organization can be contacted at www.artp.org.uk. The practitioner should also have at least four weeks' experience of working under the supervision of another experienced practitioner.

Audiometry

Any practitioner undertaking audiometry should have worked in an audiometric clinic in a hospital for a minimum of four weeks and/or should have been on a specific training course on industrial audiometry. In addition a minimum of eight weeks' field experience in industrial audiometry is required.

Vibration White Finger

No training is necessary for the application of a basic questionnaire. If the detailed HSE questionnaire (as in HS(G)88¹⁰) is to be applied, then the practitioner should be a qualified occupational health nurse with a minimum of two years practical experience. An occupational physician will be required to complete Sections E & F of the questionnaire and carry out HAVS grading on the Stockholm scale.

Chest X-Ray

The X-ray technician should be a fully qualified radiographer holding a degree in Radiography or the equivalent DCR or MSR. They should be fully conversant with the risks governing ionising radiation

and should be familiar with the interpretation of X-ray plates technically and clinically. The person interpreting and reporting on the X-ray should be a medical practitioner with a post-graduate qualification in Radiology (and preferably in occupational medicine) with experience in occupational lung diseases.

Interpretation of results

The health practitioner can pass these as fit or normal, without the need for medical opinion. Interpretation of abnormal results and overall analysis of health surveillance projects should be performed by a medical practitioner who has one of the following qualifications in occupational medicine: the D.Occ.Med, AFOM, MFOM or FFOM, who is also registered on the General Medical Council's specialist register.

Eyesight screening

The practitioner should be conversant with the machine being used and should have been trained and instructed in its use.

Dermatology

The practitioner should have a basic knowledge of dermatology and be able to recognise eczema/dermatitis.

5. REHABILITATION POLICY

Background

Where injuries do occur, the introduction of a rehabilitation programme can assist injured people to return to work as soon as possible.

Many injuries can be treated with simple intervention such as physiotherapy for musculoskeletal disorders. Access to such treatment by the National Health Service, NHS, may be limited, long waiting lists, ten to twelve weeks is not uncommon for physiotherapy.

A company can intervene on behalf of the injured person and source the treatment through a private medical service. The costs may not be significant (£30-£40 per session for physiotherapy) and a return to work may be a matter of days or a few weeks rather than months.

Potential advantages for introducing a Rehabilitation scheme.

- People recover faster reducing long-term sickness and suffering.
- Early return to the workplace reduces costs and loss to the Company.
- A company will have greater control over long-term absence.
- Creates a climate of welfare and consideration for employees.
- Most policies may well have no loss of pay and conditions whilst on Rehabilitation.
- Rapid medical intervention deters malingerers and reduces one-day 'sick notes'.
- The expense of a rehabilitation scheme has been proven to be more than offset by the potential costs and losses of not having one.
- Written procedures and documents provide sound legal defence against litigation.
- The aims of a rehabilitation scheme are very much in line with the aspirations of Trades Unions.
- A reduction in long term sickness claims and compensation should be reflected in reduced insurance contributions.
-

Introducing a Rehabilitation Policy.

The policy should have, as its basic fundamentals:

- Early intervention facilitated by prompt reporting and accurate medical diagnosis.
- Early commencement of medical treatment combined with an assessment for the need of rehabilitation.
- The expectation of all staff that an injured person will return to work as early as possible in accordance with medical advice.
- The support and understanding by fellow employees and supervisors that there may be work restrictions and limitations for the duration of the rehabilitation process.

When introducing a Rehabilitation Policy it is worth considering the following:

- Early consultation with both staff and Unions is beneficial as this should be a win- win for all parties concerned.
- Ensure all staff are kept informed of their rights and responsibilities throughout the rehabilitation process.
- A rehabilitation policy should not prejudice any employee or jeopardise his/her job security.
- Information relating to any employee on rehabilitation programmes should be treated in strict confidence.
- Use pre-printed forms to ensure that standard letters such as Medical certificates, request for medical report, consent for medical report, access to medical records, and a return to work plan cover the necessary points and comply with the requirements of the Access to Medical Reports Act 1988.
- Having a procedure for resolving disputes, and also to allow for a regular review of the programme's effectiveness.

- The Company should retain the right not to offer rehabilitation in cases where the existing medical intervention is achieving the same aims, as rehabilitation would do, or where it is believed that rehabilitation would not offer any significant benefit to the individual.
- It should be clear when Rehabilitation will be considered concluded e.g.
 - When the employee has resumed all normal duties, or
 - Resumes full time employment with agreed and acceptable modified duties, or
 - Is likely to gain no further benefit, or
 - Withdraws from the programme, or
 - Ceases to be employed by the Company.

Rehabilitation Co-ordinator

Many companies have found that a rehabilitation programme works best where a Company a Rehabilitation Co-ordinator is appointed.

- The role is to establish liaison with health providers as soon as possible.
- Seeks their advice and guidance in arranging a return to work programme, providing suitable duties, monitoring progress, and where necessary arranging placement in an alternative position.
- Co-ordinate the communication between the injured employee and their GP, the treating consultant and/or rehabilitation provider, the HR Manager and the heads of department and supervisors.

Further information

Job retention and vocational rehabilitation: The development and evaluation of a conceptual framework, HSE research report RR106, 2003.

<http://www.hse.gov.uk/research/rrpdf/rr106.pdf>

Rehabilitation and retention: the workplace view. TUC report, July 2002

Rehabilitation and retention: case studies. TUC report, July 2002

6. SICKNESS ABSENCE MANAGEMENT

A CBI survey, *Counting the costs: 2002 absence and labour turnover*, identifies that:-

'While employers are clear that the vast majority of absence is caused by genuine illness – low employee morale, poor health, lack of commitment and personal problems can, and do, play a role'.

The survey goes on to say that 'commitment from the top is vitally important for companies wanting to enhance employee performance and morale – and wishing to reduce absence'. The survey found that absence was significantly lower where senior managers take responsibility for managing absence and in 2001 absence rates were 5 days per annum in cases where senior managers take primary responsibility, compared to 7.6 days in cases where line managers were primarily responsible for managing absence. On average, absence levels across UK business in both public and private sectors were 7.1 days per employee per annum.

A simple calculator is available on www.hse.gov.uk/costs/ill_health_costs for you to work out some of the costs of ill health to your business.

Guidance

It is suggested that companies may wish to implement effective sickness absence management systems. In addition to being able to note periods of time taken off work for particular illnesses, when using such a system, occupational health care providers will be able to relate these periods to any underlying medical conditions shown up by occupational health questionnaires or health screening tests.

The advantage to individual employees is that, where health care providers notice that an individual is suffering with ill health that may be caused, or aggravated by the work that they do, they can contact the employee to see if there are things that can be done to improve the situation.

This can be done in many cases without the company knowing or, in some cases, the health care provider together with the employee's doctor may suggest that the company is informed. This will be at the choice of the employee, however, it should be pointed out that companies cannot be expected to take extra precautions to protect individuals if they are not aware of the problem.

Whilst maintaining medical confidentiality, the health care provider will be able to report on trends and geographic distributions of disease or ill health conditions.

This information will be able to help management identify if there are particular groups of workers who are at greater risk, with a view to implementing additional control measures to reduce the incidence of ill health.

Quarterly briefing reports should be prepared for senior managers in operating companies in order for them to be able to see what the overall level of absence is from particular types of ill health conditions. A copy of a typical graph that is included with this report is shown at the rear of this section.

It is recommended that managers and supervisors maintain their vigilance for reported cases of sickness absence that might affect an employee's capacity to work safely when they initially return to work. For example, if an employee has taken 4 or 5 weeks off work with back pain, their incapacity for this length of time may have reduced their strength and stamina and they may be at increased risk of further injury.

Further information

Managing sickness absence: a comprehensive guide for employers.
<http://www/managingabsence.org.uk>

7. WELFARE REQUIREMENTS

To protect the health of the workforce a healthy working environment is a prerequisite. The Workplace (Health Safety & Welfare) Regulations 1992 set minimum standards for all workplaces including those in quarries.

Ventilation

Enclosed workplaces should be sufficiently well ventilated so that stale air and air which is hot or humid is replaced at a reasonable rate. In many cases suitable ventilation can be achieved by opening windows, but should not cause any uncomfortable draughts.

Temperature

The temperature in all internal workplaces during working hours should normally be at least 16 degrees Celsius, unless much of the work involves severe physical effort in which case the temperature should be at least 13°C. Sufficient thermometers should be provided for monitoring of the temperature.

Where a reasonably comfortable temperature cannot be achieved throughout a workroom, local heating or cooling should be provided. In extremely hot weather, fans and increased ventilation may be used instead of local cooling.

Lighting

Suitable and sufficient lighting must be provided at every workplace and so far as is reasonably practicable this should be by natural light. Where the failure of artificial lighting creates a danger, suitable and sufficient emergency lighting must be provided which has an independent energy source.

Where natural light is used windows and skylights should be regularly cleaned. This must be performed in a safe manner.

Light switches should be sensibly and obviously placed and lights so sited that any glare is minimised.

Cleanliness and waste materials

All furniture and fittings of every workplace must be kept sufficiently clean. Surfaces of floors, walls and ceilings must be capable of being kept sufficiently clean and waste materials must not accumulate otherwise than in waste receptacles. The use of tiled splash backs at sinks and provision of suitable and sufficient waste bins will help compliance.

Methods of cleaning should not create any health and safety risks e.g. Dust, fumes, slippery surfaces etc.

Room dimensions and space

The workstations must be so arranged that it is:

- suitable for:
 - any person at work who is likely to work at the workstation, and
 - any work likely to be done there.
- so far as is reasonably practicable, it provides protection from adverse weather.
- enables a person to leave it swiftly or be assisted in an emergency.
- Ensures any person is not likely to slip.

Adequate seating should be provided where necessary. See also guidance on Display Screen Equipment and Manual Handling.

Condition of floors and traffic routes

They must be suitably constructed for their intended uses and so far as is reasonably practicable, kept free from obstructions, articles or substances likely to cause slips, trips or falls. There must be adequate drainage provided where necessary and, in particular, floors and the surfaces of traffic routes must not have any holes or unnecessary slopes, be uneven or slippery.

Staircases should be securely fenced by two rails, the upper rail at a height of 900 mm or higher.

Windows or similar transparent surfaces

Fitted within doors, gates and walls, should, where necessary, be of safety material and be marked so that it is apparent. They should be capable of being reached and operated in a safe manner and, when in the open position, people should be not liable to come into contact with them. They should be capable of being cleaned safely.

Sanitary conveniences and washing facilities

They should be readily accessible, suitable and sufficient for the numbers of workers employed at the workplace. Showers should be provided where necessary by the nature of the work or for health reasons.

Drinking Water

This should normally be obtained from a public or private water supply by means of a tap connected directly to the water mains or via a suitable storage cistern.

Water should only be provided in refillable containers where it cannot be obtained directly from a mains supply. Containers should be suitably enclosed and refilled at least daily.

Facilities for changing and storage of clothing

Accommodation for work clothing and workers' own personal clothing should enable it to hang in a clean, warm, dry, well ventilated place, where it can dry out during the course of a working day if necessary. The accommodation should consist as a minimum of a separate peg or hook for each worker. Where work clothing becomes wet, dirty, or contaminated, it should be accommodated separately from workers' own clothing, with facilities to enable it to be dried prior to the following work period, unless other dry clothing is provided. When they remove more than their outer clothing, changing rooms should be provided.

Facilities for rest and to eat meals

Suitable seats should be provided for workers to use during breaks where personal protective equipment need not be worn. In offices and other reasonably clean places, work seats will be sufficient provided workers are not subject to excessive disturbance.

Where workers regularly eat meals at work, suitable and sufficient facilities should be provided for the purpose. Eating facilities should include a facility for preparing or obtaining hot drinks, such as a kettle, vending machine or a canteen. Where hot food cannot be obtained the workplace should be provided with the means for heating their own food.

Good hygiene standards should be maintained in those parts of rest facilities used for eating or preparing food and drinks.

Rest areas should be arranged to enable employees to use them without experiencing discomfort from tobacco smoke.

Mess Rooms, Canteens and Kitchens

Mess rooms, where provided, must contain sufficient tables and chairs and be suitably equipped to allow for the warming of food, boiling of water, and the washing up of dishes. Section 2 (2) of the Health and Safety at Work Act requires that these areas must be kept clean and tidy, and this is reinforced by virtue of Regulation 25 of the Workplace etc. Regulations.

The Food Safety Act applies to all works canteens and food businesses where food or drink is prepared, supplied, provided or sold.

The primary requirements are that they be registered with the relevant local authority by completion of the appropriate form, (available from that authority's Environmental Health Department) and that all persons handling food receive approved practical hygiene training.

Some definitions are as follows:-

Food – means any food or drink of any description, or any ingredients used in the preparation of such food.

Food Room – any room in which a person engages in the handling of food including a servery or counter.

Food Premises – any canteen or mess room where food is prepared, provided or sold.

Food Business – the **sale or free supply of food** at mess rooms or canteens makes it a food business.

Brief selected requirements of the Food Hygiene Regulations are as follows:-

- Walls, floors and ceilings of all food rooms must be kept clean, in a state of good repair and free from any contamination.
- Any surface or equipment likely to come into contact with food must be kept clean.
- All food premises must be well lit and ventilated.
- All drainage systems must be adequately trapped.
- A wash hand basin, (separate from the one where food is handled or prepared) must be provided for personal cleanliness. Hot and cold water, or hot water at a suitably controlled temperature must be provided along with soap and clean towels or other suitable drying facilities.
- A constant supply of clean hot water must be supplied at suitable sinks for food and equipment washing only.
- Toilets must be separated from any food room by a lobby, they must be kept clean and contain wash hand basins provided for personal cleanliness. Notices must be prominently displayed showing the message "NOW WASH YOUR HANDS".
- A First Aid Kit must be provided and must contain waterproof dressings which are either blue or green in colour.

- Raw food must be kept separate from cooked food.
- Open food must be adequately and suitably screened to avoid danger from contamination.
- Persons handling food must wear suitable over clothing.
- Persons handling food must tell their employer if they suffer from certain medical conditions such as Diarrhoea or vomiting, or contract Salmonella or similar conditions.

Where a canteen is operated under a contract between an employer and a contractor care should be taken when drawing up the contract to define in contractual terms the relationship between the undertakings and to implement arrangements whereby the requirements of the Food Safety Act 1990 and The Food Safety (General Food Hygiene) Regulations 1995 are complied with.

8. FIRST AID FACILITIES

Should an injury occur it is essential that first aid is readily available on site. The legal requirements for first aid provision are contained within the First Aid at Work Regulations 1981. The nature and extent of the first aid provision will vary with each location from a simple traveling first aid box at some sites with good access to the emergency services.

Guidance for First Aid Rooms at quarries sites

The following options may be determined as a result of a site risk assessment.

- If as a result of risk assessment, it is found that a first aid room is not required, the site will only require a first aid store, to store its first aid equipment.
- If as a result of risk assessment, it is found that a permanent first aid room is not required. It may be more appropriate for the site to have a room that can be converted to a first aid room at short notice, when required.
- If as a result of risk assessment, it is found that a permanent designated first aid room is required; one must then be provided. Suggested facilities and equipment are listed below the following three options.

Option one:

- First aid store. May only require a monthly inspection.

Option two:

- The room must be able to be brought into use as a first aid room immediately in an emergency (e.g. if the room is also used to store emergency equipment such as ropes, shovels, jacks, picks etc. these must not interfere with it's use for first aid).

Option three:

- The permanent designated first aid room must be used exclusively for first aid. It should contain essential first aid materials, and be easily accessible to stretchers. It must also be clearly identified and sign-posted (white lettering on green background).

The room should be large enough to hold a casualty couch and allow access to both sides for people to work, contain a desk, a chair and any additional equipment (identified by the risk assessment). It should have washable surfaces, adequate heating, ventilation, and lighting. It must be kept clean, tidy, accessible and available for use at all times when there are people working.

It must be positioned as near as possible to a point of access for transport to Hospital, and display on the door a notice giving the names, locations, and contact details of First Aiders.

****Suggested facilities and equipment are:***

A sink with hot and cold running water
Drinking water supply and disposable cups
Soap and paper towels
A store for first aid materials,

See First Aid Guidance Cards, (for First Aid Box Materials)

- (which may include a “Frac-Pac” to treat fractures)

A couch with waterproof protection and

- clean pillows
- blankets

A chair

A telephone, or other communication equipment

A record book for recording incidents

- where First Aid treatment has been administered

*Suggested items listed above are in accordance with,

- (guidance on the Health & Safety (First Aid) Regulations 1981)

Some sites may be additionally equipped with the following

- Entonox
- Resuscitation equipment.
- Specialist stretchers - rescue stretchers and ropes
- Other rescue equipment

(A number of Advanced First-Aiders, will be required)

- Will need to be trained to use some above equipment.

A weekly check of the first aid room and its contents must be made

- Report recorded by an appointed person

Recommended Contents of First Aid Boxes

***One Guidance Card: “First Aid at Work” [Health and Safety (First Aid) Regulations 1981]**

24 Individually Wrapped Plasters

2 Sterile Eye Pads

6 X No. 8 Medium Size Individually Wrapped Dressings

2 X No. 9 Large Individually Wrapped Dressings

2 X No. 3 Extra Large Individually Wrapped Dressings

6 Triangular Bandages Individually Wrapped

6 Safety Pins

1 Pair Tweezers

1 Pair Scissors

One litre Sterile Eye Wash

24 Moist Cleaning Wipes Individually Wrapped

Adhesive Tape

Disposable Gloves

Quantity of Plastic Disposable Bags

- To Be Put Into Clinical Waste Bin
- SHA 750 (5 LITRES). Clinical Waste Bin, For Disposal of Clinical Waste

CONTENTS OF TRAVELLING FIRST-AID KITS

***One Guidance Card**

10 Individually Wrapped Plasters

1 X No. 9 Large Individually Wrapped Dressings

2 Triangular Bandages Individually Wrapped

2 Safety Pins

One litre Sterile Eye Wash

10 Moist Cleaning Wipes Individually Wrapped

Disposable Gloves

Quantity of Plastic Disposable Bags

- To Be Put Into Clinical Waste Bin

9. WORKING TIME REGULATIONS 1998

The Working Time Regulations 1998 lay down obligations on employers in respect of working hours, night work, health assessments and transfer of night workers to day work, and requirements regarding patterns of work, rest breaks, annual leave and record keeping.

They require that before a worker commences night work he should be given the opportunity of a free health assessment at regular interval as long as he remains on night work.

The health assessment may take the form of a suitable confidential questionnaire to ascertain if a worker has a medical condition which may affect their fitness for night work. Interpretation of this type of questionnaire should ideally be by an occupational health professional, but smaller businesses may choose to use a non-confidential version which can be interpreted by a lay person such as a personnel officer. Questionnaires should take account of medical conditions such as diabetes, cardiovascular disease, gastrointestinal disorders, depression/anxiety, sleep disorders, asthma/other breathing conditions, and other conditions that might affect night work.

A further physical assessment with a nurse or physician may be recommended following review of the questionnaire to advise on suitability for night work, and/or any restrictions, either temporary or permanent. The cost of this must be borne by the employer. An employee may have to be removed from night work if it is likely to be detrimental to his health. There are no specific guidelines on the frequency of assessment, but account should be taken of the nature of the work, any special hazards to physical and/or mental well being, and the age of the employee.

Further Information

The Working Time Regulations 1988 – Statutory Instrument No 1833

The Provision of Health Assessments under the Working Time Regulations 1988 – Society of Occupational Medicine 1999

Your guide to the Working Time Regulations, Department for Trade and Industry.
www.dti.gov.uk/er/work_time_regs/wtr0.htm

10. COMMON AGENTS FOUND IN QUARRIES

In this section the most common agents likely to present health hazards at quarries are listed together with the necessary controls and health surveillance requirements. The information given is not exhaustive and those encountering health hazards which are not listed should seek specialist advice in order to carry out an assessment of the risk.

Suggestions are given as to the frequency with which occupational health assessments should be carried out. It is not intended that these periods should be followed rigidly. Consideration should be given to monitoring as many relevant conditions as possible during one examination, and flexibility must be allowed to react to the outcome of an examination. The discovery of an individual affected may justify more frequent examination, while continued failure to identify individuals affected may justify less frequent examination.

10.1 Contaminated Land

Redevelopment of contaminated land, which is more likely to be associated with opencast coal mining than quarrying, can result in exposure to a number of contaminants. The health effects, control measures and surveillance which may be required will depend upon the nature of the contaminants encountered.

Control limits

Assessment of risk under COSHH is required, and exposure controlled particularly where specific contaminants have been assigned OESs or MELs. There is a proposal to replace the OES and MEL structure with a reduced list of Workplace Exposure Limited (WEL).

Precautions

Protective clothing and a high standard of personal hygiene is required, and good welfare facilities should be provided and maintained to promote this. Contaminants should be prevented from leaving the site in an uncontrolled manner.

Further Information

Protection of workers and the general public during the development of contaminated land HS(g)66, ISBN 0-0188 5657 X

10.2 Dust

Whilst dust is present at all quarries, the nature of the dust presents differing levels of risk. In general, the highest risk is presented by dusts containing high levels of respirable crystalline silica (RCS). Limestone may have no free silica while gritstone may contain over 80% free silica. Flint may be in excess of 90% free silica. Prolonged exposure to excessive levels of RCS can affect chest health and result in pneumoconiosis or silicosis. RCS has recently also been identified as a low level carcinogen, though the balance of medical opinion suggests that lung cancer is unlikely to develop in the absence of silicosis as the precursor.

Control level

Routine dust monitoring is required. EH 40 lists occupational exposure standards for various dusts (8-hour TWA):

| | |
|-----------|---|
| Limestone | 10 mg/m ³ total inhalable dust |
| | 4 mg/m ³ respirable dust |
| Coal | 2 mg/m ³ respirable dust |
| Kaolin | 2 mg/m ³ respirable dust |

A Maximum Exposure Limit is set for crystalline silica of 0.3 mg/m³ respirable dust. However this is currently under review, and HSE's view is that it is reasonably practicable to control exposures below 0.1 mg/m³. This level is enforceable under Reg 7(7) of COSHH.

Precautions

Avoid generation of dust in the first place. Avoid exposure to dust. Maintain seals / filters etc for control rooms, vehicle cabs and other dust refuges.

Where exposure to dust cannot be adequately controlled by other means, appropriate respiratory protective equipment should be used, and properly stored and maintained.

Health surveillance

For new and existing employees for whom exposure to respirable crystalline silica at or above 0.1 mg/m³ (8 hr TWA) is foreseeable, the guidance in EH59 (latest revision) should be followed. For new employees who may have exposures to other mineral dusts at or above the standards/limits above, pre-employment medical examination will be required. This should include a respiratory questionnaire and baseline lung function test. Chest X-rays should only be carried out if clinically required.

Further Information

Occupational exposure limits, EH40, revised annually. ISBN 0 7176 2083 2

Workplace health: Standards, Health development Agency. www.had-online.org.uk/html/improving/workplacehealth.html

Respirable crystalline silica, EH59, 1997, ISBN 0 7176 1432 8

10.3 Eyesight

All quarry operatives, especially drivers, should have adequate (corrected) eyesight. Accidents can be caused directly by poor eyesight and eyestrain may lead to headaches and stress.

Precautions

Ensure that eyesight correction and eye protection is worn where and when necessary.

Health surveillance

A pre-employment medical should include an eyesight test, using for example a “Keystone” machine or equivalent. Where an employee has difficulty in performing a Keystone test a “Snellen” chart is recommended. The assessments should be repeated regularly for existing employees.

Those people driving quarry vehicles should be tested to ensure they are able to meet current DVLA standards. If they do not, they should not be allowed to return to driving duties until the company is satisfied that their vision has been corrected.

Where an employee is or will be a display screen equipment user they should be offered a full eye and eyesight test, and payment towards glasses to correct for intermediate vision if required, as required by the DSE Regulations 1992²¹. These costs must be borne by the employer.

Further Information

Display screen equipment work: The Health and Safety (Display Screen Equipment) Regulations 1992, Guidance L26, 1992, ISBN 0 7176 0410 1

10.4 Ionising radiation

Risk of exposure to ionizing radiation in quarrying is usually associated with the use of radioactive sources within instrumentation, or from naturally occurring radon gas, which may collect in some confined areas within buildings or radioactive scale in pipework. Exposure can cause cancers.

Control level

The Ionising Radiations Regulations 1999 set the framework for management of radiation risk. Those working in radiation areas must have their radiation dose assessed and recorded, in accordance with Schedule 4 of the Regulations.

Precautions

All radioactive sources should be sealed and shielded.

Enclosed low-level rooms in radon-affected areas should be adequately ventilated.

Health surveillance

Statutory health surveillance by an HSE Appointed Doctor is required before starting work and at least once a year, for classified persons under the Regulations. Employees who have received an overexposure are also subject to statutory surveillance.

Further Information

Work with Ionising Radiations: Ionising Radiations Regulations 1999, Approved Code of Practice and Guidance, L121, 2000, ISBN 0 7176 1746 7

Radon in the Workplace, IND G 210, 1995

Radon – Guidance from HSE and the Building Research Establishment, MISC 035

10.5 Non-ionising radiation

Operatives should be made aware of the adverse effects of ultra-violet (UV) radiation, e.g. from sunlight and arc welding. Skin cancers can result from skin exposure to sunlight. People working near welding operations are also at risk of "Arc eye", a painful condition.

Precautions

Operatives should be discouraged from sunbathing and encouraged to cover their skin and use sunblock during periods of strong sunlight.

Segregate welding bays with screens and provide suitable eye protection which must be worn by welders and any observers.

Health surveillance

Operatives should be educated³⁰ and encouraged to examine their own skin for the effects of sunlight.

EMF and WAVES

At the time of going to Press, the draft Physical Agents (Electromagnetic Fields & Waves) Directive was progressing through the Brussels legislature. This draft directive sets out maximum levels for exposure and also establishes levels at which preventive measures must be taken by employers. Depending on the outcome of the risk assessment, employers may also be required to draw up and action plan of organizational and technical measures in order to reduce levels and to put up warning signs in areas with excessive levels of electromagnetic field. Employers would also be required to provide adequate information and training for workers that might be at risk.

Further Information

Keep your top on: Health risks from Working in the Sun, IND G 147 (L), 1993

10.6 Legionellosis in Workplaces

Legionnaires' disease (legionellosis) is a type of pneumonia caused by the legionella bacteria which may be found in the water systems of primarily large buildings. Infection is brought about by inhalation of fine water droplets containing the viable bacteria. The characteristic symptoms begin with a high fever, chill, headaches and muscle pain which can be effectively treated by the use of antibiotics. Water systems must be managed to control the risk of legionellosis, as required under the COSHH Regulations 1999, and the Approved Code of Practice.

Water supplies in small office buildings should be a low risk. As a precaution you can carry out a documented risk assessment and implement quarterly monitoring of water temperatures from the taps. (Legionella growth is unlikely in cold water systems below 20°C and in hot water systems above 60°C.)

In larger buildings, including large factory units, the following precautions should be undertaken:

- Undertake a risk assessment.
- Avoid water temperature between 20°C and 60°C.
- Avoid water stagnation, check for dead ends in pipework.
- Avoid use of materials that harbour bacteria, e.g. leather, some rubbers etc.
- Keep system clear so as to avoid accumulation of sediment harbouring bacteria.
- Make use of water treatment systems and chemicals.
- Ensure that the whole system operates safely.
- Undertake a risk assessment.
- Use competent contractors, where necessary, to ensure water safety.

Where there is a risk of legionnaires disease, water systems should be disinfected to BS6700 'Specification for the design, installation, testing and maintenance of services supplying water for domestic use within buildings'.

A list of issues to consider during the risk assessment and information regarding control measures is attached. Risks should be assessed not just for the routine operation or use of the system, but also in relation to maintenance, breakdown, abnormal operation and commissioning or unusual circumstances.

| RISK | CONTROL MEASURE |
|--|---|
| Water temperature – the optimum temperature for Legionella growth is 37°C. | Cold water taps should operate at less than 20°C and hot water taps above 50°C. Temperatures should be checked at taps after water has run for 1 minute, results being recorded on a quarterly basis. Where water may remain standing in hot ambient temperatures insulate tanks, pipes, etc. |
| Sediment, sludge, scale in system. | Annual inspection of system, or more often if contamination is suspected. Ensure storage tanks are sealed. Implement and record water treatment programme where appropriate. |
| Formation of algae or biofilm stagnation. | Ensure sufficient circulation i.e. water tanks not too big. Protect overflows with mesh screens. |
| Water droplet formation. | Minimize areas/processes where water droplets may form. |
| Failure to implement maintenance programme. | Appoint a manager to oversee programme ensuring arrangements are in place to cover absence etc. |

| | |
|--|---|
| 'Dead Legs' in system where Legionella may proliferate. | Removed dead legs in system or ensure short and direct pipework to intermittently used taps, etc. Where impractical consider trace heating. |
| Calorifiers where stratification may occur. | Ensure a steady off take of water and ensure water temperature is greater than 60°C throughout. |
| Certain fittings i.e. leather, some rubbers, jointing compounds, etc., which promote growth. | Ensure new fittings are compliant with "The Water Fittings and Materials Directory" published by the Water Research Centre. |
| System out of use for week or longer. | Raise the operating temperature (60°C) for at least an hour before being brought back into use. |
| Water softeners and filters. | Maintain and back wash at required frequency in accordance with manufacturer's recommendations. |
| Other water systems e.g. fire fighting equipment. | Ensure these are included in the assessment which considers operation, maintenance, testing, etc. |

For full details of control measures reference should be made to:

- HSE Publications L8 (rev) ACoP 'The Prevention or Control of Legionellosis (including Legionnaires disease).
- HS(G) 80 'The control of Legionellosis including Legionnaires disease'.

10.7 Methylene chloride / dichloromethane

This chemical is an industrial solvent used to strip binders from asphalt during testing. It boils at 40 °C and the vapour is 2.93 times heavier than air. It is a severe skin irritant and anaesthetic effects may lead to narcosis, analgesia, tiredness and fatigue. It can also cause liver damage.

Control level

COSHH assessment is required. Maximum exposure levels are assigned in EH 40:

100 ppm (8-hr TWA)

300 ppm (15 min reference period)

Precautions

Ensure good workplace ventilation at all times and control exposure to the lowest level reasonably practicable below the MEL. Extractor fans need to be fitted at low levels in the laboratory room. Local ventilation should be tested at intervals not exceeding 14 months.

Avoid skin and eye contact. Do not smoke, eat or drink in the work area. Wash before eating, drinking or smoking. Use barrier cream, hand cleanser and after work cream.

Health surveillance at appropriate intervals where exposure has or may have been exceeded.

Further Information

Exposure Assessment: Dichloromethane, EH74/1, 1998, ISBN 0 7176 2501 X

10.8 Musculoskeletal disorders (MSDs)

Whilst MSDs may be caused by a single event (“accident”) they are often cumulative in effect and should therefore be considered as a health rather than a safety problem. Awkward or uncomfortable working positions, and repetitive movements of the hand, wrist or arm including the use of force or rotation, place unnecessary and damaging strains on the body, back and limbs. MSDs cover a wide range of strain, sprain and over-use problems, which affect the body’s muscles and joints.

Quarry vehicles and some fixed plant can also generate vibration affecting the whole body. Whole body vibration (WBV) can produce symptoms such as back and neck pain. The effects of WBV are not as clearly understood as those for HAVS.

Precautions

Special requirements are imposed by the Manual Handling Operations Regulations 1992 and the DSE Regulations.

Redesign work and provide mechanical aids to eliminate or reduce manual or repetitive handling.

Avoid in particular:

- poor working postures
- high levels of force
- bending, stretching or twisting

Provide appropriate training and refresher training to employees. Consider particular risk groups e.g. those with pre-existing musculoskeletal problems, young people, pregnant women.

Note: See also section 10.13: Vibration.

Health surveillance

For prospective new employees whose work will include a significant amount of handling or repetitive movement, a pre-employment “fitness for work” assessment should be conducted to determine any MSDs already present which may preclude the intended employment.

Employees should be encouraged to report symptoms of any MSDs to the nominated person at any time. Their attendance for other health surveillance should be used as an opportunity to discuss any symptoms of MSDs which have not previously been reported. When a problem is detected a full assessment of all possible causes should be undertaken.

Further Information

Display screen equipment Work: The Health and Safety (Display Screen Equipment) Regulations 1992, Guidance, L26, 1992, ISBN 0 7176 0410 1

Manual Handling Operations Regulations 1992 and Guidance, L26, 1992, ISBN 0 7176 2415 3

Manual Handling – Solutions you can handle, HSG115, 1994, ISBN 0 7176 0693 7

A pain in your Workplace? Ergonomic problems and solutions, HSG121, 1994, ISBN 0 7176 0668 6

Upper Limb Disorders in the Workplace, HSG60, 2002, ISBN 0 7176 1978 8

10.9 NOISE

Quarrying is a noisy industry and there is a risk of long-term irreversible hearing loss if this is not managed. A noise survey of all relevant working areas should be carried out, with mapping of areas with action levels, appropriate signage including the advisory and compulsory use of ear protection.

Control level

The Noise at Work Regulations 1989 set out three action levels:

1st Action Level 85 dB(A) $L_{EP,d}$:

- assessment must be carried out
- ear protectors must be provided on request

2nd Action Level 90 dB(A) $L_{EP,d}$:

- reduction of noise exposure by engineering controls is required
- ear protectors to be worn
- ear protection zones to be demarcated

Peak Action Level 140 dB(A):

- action as for 2nd action level

Note: Revised Noise Regulations will come into force in autumn 2005, and the first and second action levels will each be reduced by 5 dB(A). Audiometry will be required at exposures at or above the new second action level of 85 dB(A).

Precautions

Purchase less noisy equipment and keep it maintained. Reduce exposure below 2nd action level (or peak action level) by engineering means. Provide quiet refuges. Educate the workforce. Use only approved PPE giving the correct attenuation for the noise experienced, and ensure PPE is properly used and maintained.

Health surveillance

For new employees whose daily noise exposure is likely to reach or exceed 90 dB(A) (measured without using hearing protection) a baseline audiogram should be carried out at the pre-employment medical. The risk of hearing damage rises significantly at exposures above this level.

Regular audiometry should be carried out on all employees with such exposures, usually annually for the first two years of employment and then at three-yearly intervals. More frequent surveillance may be necessary where exposures are particularly high or if an abnormality is detected.

Regulations implementing the Physical Agents (Noise) Directive are expected to come into force in 2005. The Directive lowers the first and second action levels to 80 and 85 dB(A) respectively. Where personal noise exposure without hearing protection exceeds 80 dB(A), audiometric testing must be available on request. Where exposure exceeds 85 dB(A), employees have a right to surveillance by a doctor. The Directive also introduces a noise limit of 87 dB(A), taking into account the attenuation provided by hearing protection.

Further Information

Reducing noise at work: Guidance on the Noise at Work Regulations 1989, L108, 1998, ISBN 0 7176 1511 1

Keep the noise down – advice for purchasers of workplace machinery, IND G 263, 1997, ISBN 0 7176 1480 8

Sound solutions, HSG138, 1995, ISBN 0 7176 0791 7

A guide to audiometric testing programmes, MS26, 1995, ISBN 0 7176 0942 1

10.10 Petroleum products

Oils, grease, bitumens, are commonly used in quarry activities and because they are used so frequently the risks are often ignored. The conditions they may cause range from dermatitis to skin cancer and are usually the result of poor personal hygiene.

Control level

No exposure levels are specified. A COSHH assessment is required. Manufacturers' directions to be followed.

Precautions

Educate the workforce¹⁷.

Avoid skin contact as far as reasonably practicable. Use barrier creams, hand cleanser and after-work cream on a routine basis¹⁸. Surgical gloves can be worn without loss of sensitivity¹⁹. (NB. Natural latex gloves can however cause sensitisation in some people, and additional surveillance will be required to detect early symptoms.)

Launder overalls regularly and use disposable overalls for very dirty jobs. Do not keep oily rags in pockets near the skin. Wash hands and face thoroughly before eating, drinking, smoking or using the toilet.

Health surveillance

Health surveillance should be carried out at least every three years²⁰. Those exposed should be encouraged to carry out their own skin inspections and report any symptoms to the appointed person.

Further Information

Preventing dermatitis at work: Advice for employers and employees, IND G 233(L), 1996, ISBN 0 7176 1246 5

Choice of skincare products for the workplace, HSG 207, 2001, ISBN 0 7176 1825 0

Cost and effectiveness of chemical protective gloves for the workplace, HSG206, 2001, ISBN 0 7176 1828 5

Medical aspects of occupational skin disease, (2nd edition), 1998, ISBN 0 7176 1545 6

10.11 Stress

Work related stress is defined as 'the adverse reaction people have to excessive pressures or other types of demands placed on them'

This makes an important distinction between the beneficial effects of pressure (which can be stimulating and motivating) and work related stress, which is the natural but distressing reaction to demands or 'pressures' that the person perceives they cannot cope with at a given time

Possible ill-health effects

Work related stress is not an illness, but it can lead to increased problems with ill health, if it is prolonged or particularly intense. Examples are heart disease, raised blood pressure, regular headaches, back pain, gastrointestinal disturbances and various minor illnesses. Psychological effects can be anxiety and depression.

Control Level

Regulation 3 of the Management of Health and Safety at Work Regulations 1999 require employers to assess risks to health and safety at work. This includes the risk of employees developing stress-related illness, however assessment is more complicated than for physical hazards, although it involves the same basic principals. See 'Tackling Stress – a managers guide' for detailed guidance (reference below).

Health Surveillance

No specific health surveillance criteria exists with regards to stress, however regular reviews of employee attendance records may enable stress related illness or absenteeism to be identified.

Deterioration in an employee's behaviour, changes in relationships with colleagues, irritability and reduced performance are some of the outward signs of stress, which if left unchecked can lead to stress related illnesses.

Precautions

Look for situations or activities that are likely to cause work related stress and carry out a suitable risk assessment. Consider stress when carrying out or reviewing risk assessments Ensure that management teams have the ability to recognise and deal with stress related problems satisfactorily or are aware of action to take should this be identified as an issue. Leading by example, effective communication between all levels of the organisation and the encouragement of teamwork will reduce the potential for work related stress.

Further Information

- Tackling Work Related Stress – A managers guide' ISBN 0 7176 2050 6
- Work Related Stress A short guide' ISBN 0 7176 2112 X
- Tackling Work Related Stress – 'A guide for employees' ISBN 0 7176 2065 4
- Stress in Industry : Causes, effects and prevention' ISBN 9 22103539 5
- Stress research and stress management – 'Putting theory to work' ISBN 0 7176 0684 8
- Work-related factors and ill health: 'The Whitehall II study' ISBN 0 7176 1784 X

10.12 Substance Use / Abuse

Drugs and alcohol are readily available for those who want them. There is a significant (and increasing) number of people using drink or drugs, and some may be under their influence whilst at work. Employees have a duty to maintain a satisfactory level of performance at all times and alcohol or drugs may affect their ability to do this. With drugs this applies whether they are injected, inhaled or taken orally. Employers should also be aware that the increased availability of stronger legal medication over the pharmacist's counter and other prescription medication means that the risk of drug impaired performance by a member of the workforce is increasing.

Possible health effects

Drugs and alcohol can affect an employee's behaviour, how they perform everyday activities and their work. Every one of their actions depends on messages from the brain. Drugs or alcohol can delay and disrupt these messages.

Misuse of drugs and alcohol can have very serious consequences for safety and can damage a worker, their colleagues, their work performance and ultimately the company.

Drugs or alcohol can interfere with:-

- Co-ordination and the ability of the brain to control eyes, hands and feet
- Reaction speed and the ability to judge distance accurately
- Short term memory
- The ability to make rational and well-considered decisions

Even if employees do not consider their performance to be a risk to others, they must consider the effect that drugs / alcohol will have on their alertness, concentration and behaviour and other people's perception of their behaviour and attitude when this is altered or impaired.

Control level

The current UK limit for drink-driving is 80mg/100ml blood alcohol concentration or 35mcg/100ml breath alcohol concentration. There is no legal or safe limit for drugs.

Health surveillance

Companies should produce a Drugs and Alcohol Policy to run in tandem with their health and safety policy as a general duty of care under the Health and Safety at Work Etc. Act 1974.

A drugs and alcohol policy should cover all employees and contractors and include the requirements for them to be in a fit condition whilst at work. The policy should consider the following:

- The aim of the policy
- To whom the policy applies to (include contractors, casual/temporary workers etc.)
- Definite guidelines for your employees
- Education for your workforce and Managers
- Rules and procedures for your Managers and Supervisors
- Details of help and support available
- The disciplinary procedure
- Confidentiality.
- Sick leave for employees accepting counselling or support
- Testing and screening

Testing programmes

Companies should consider testing:-

- Pre-employment
- Prior to promotion or transfer
- Random or unannounced
- Post incident
- For cause or with cause
- Routinely or occasionally
- Part of a counselling course or after care programme

Further Information

- Health and Safety at Work Etc. Act 1974
- Management of Health and Safety at Work Regulations 1999
- Misuse of Drugs Act 1971
- The Transport and Works Act 1992
- The Road Traffic Act 1991
- Disability Discrimination Act 1995
- Drug Misuse at Work – A Guide for Employers – Ind G91 (rev 2) HSE Books
- Taking Care of Alcohol Issues at Work – Medical Council on Alcoholism
- Substance Abuse at Work – Faculty of Occupational Medicine Guidelines

Guidelines for Developing a Drugs and Alcohol Policy – QPA 2001(A generic model for members of the QPA)

10.13 Hand Arm Vibration

Hand Arm Vibration

Vibration is generated by tools such as road breaking hammer drills, angle grinders, chain saws and disc cutters. Powered hand tools produce the condition Hand Arm Vibration Syndrome (HAVS), where blood vessels, nerves, soft tissues and joints of the arm are damaged causing symptoms that can include finger blanching, pain, and permanent loss of sensation.

Control level

Regulations will come into force in July 2005 setting exposure action values (EAVs) and Exposure Limit Values (ELVs) for HAV.

EAV 2.5 m/s² A(8)

ELV 5 m/s² A(8)

NB. These are 3-axis resultant values. Existing HSE guidance action level is approximately 4 m/s² A(8) on this scale.

Health surveillance for HAVS

For new employees likely to work with vibrating tools, a questionnaire such as that in HS(G)88 should include questions on previous work history and vibration induced symptoms. A check after 6 months should be considered to identify any individual with particular susceptibility.

Exposed individuals should be checked regularly for symptoms by means of a screening questionnaire under the supervision of a medical practitioner or nurse with knowledge of HAVS. Individuals should report any symptoms as early as possible. Investigated procedures should follow.

Adequate records of health checks and reported instances should be kept.

The health surveillance should result in an assessment of a person's fitness to continue working with vibration sources, and identify where vibration exposure should be reduced.

Precautions

Provide powered hand tools with the lowest vibration characteristics to achieve the task and ensure that they are effectively maintained to ensure that vibration levels do not exceed the design level.

Change work practices to eliminate exposure to vibration and where there is a residual risk despite control measures, consider job rotation to reduce an individual's exposure.

Educate workers in best practice for tool.

Further Information

Vibration white finger: General advice for employees – HSE IND(G) 226

Hand-Arm Vibration – HS(G)88, ISBN 0 7176 07437

Reducing the risk of hand-arm vibration injury among stonemasons – HSE Information Sheet Misc. 112

Health risks from hand-arm vibration: Advice for Employers – HSE IND(G) 175 (rev 1)

Vibration solutions: Practical ways to reduce the risk of hand-arm vibration injury – HS(G) 170, ISBN 0 7176 0954 5

Whole-Body Vibration

Quarry vehicles and some fixed plant can also produce vibration either passing through the seat into the drivers body through the buttocks or from the platform of a vehicle or machine into the operator through his/her feet. Regular exposure to Whole Body Vibration (WBV) over many months or years may contribute to symptoms such as back/neck pain. The effects of WBV are not as clearly understood as those for HAVS at the present time.

Regulations will come into force in July 2005 setting exposure action values (EAVs) and Exposure Limit Values (ELVs) for WBV.

EAV $0.5 \text{ m/s}^2 \text{ A(8)}$ or VDV $9.1 \text{ m/s}^{1.75}$

ELV $1.15 \text{ m/s}^2 \text{ A(8)}$ or VDV $21 \text{ m/s}^{1.75}$

Note: These are single axis values, computed in accordance with ISO2631:1997

There is evidence that the most important factor is to provide and maintain good quality road surfaces. Typically, maintenance would include prompt clearance of debris and repair of pot-holes. Re-grading should be undertaken if necessary.

Isolate operatives from sources of WBV by providing vibration damped control cabins. Maintain road surfaces. Choose the right vehicle for the ground surface and task. Ensure vehicles are well maintained, particularly the suspension components, tyres (correctly inflated) and seats, and ensure that seats are properly adjusted²⁶. This may require checking/adjustment before each shift change, if drivers of significantly different weights are operating the same vehicle. Where possible, change work practices to eliminate exposure to vibration, and where there is a residual risk despite control measures, consider job rotation to reduce individual exposure. Educate the workforce.

Further Information

In the Driving Seat, IND G 242, 1997, ISBN 0 7176 1314 3

10.14 Welding fume

The composition of welding fume varies considerably depending on the materials being used and the job being carried out. Metal fume fever is an acute, flu-like illness with drying of the throat, difficulty in breathing and possible long term damage to the lungs.

Control level

Welding fume has an occupational exposure standard of 5 mg/m³ (8 hr TWA). Where special rods are used, e.g. hard facing, the constituents may have an OES of less than this.

Risk assessment¹³ is required for any level of exposure, and where exposure could exceed the OES, effective control measures must be implemented.

Precautions

Efforts should be directed at avoiding exposure¹⁴ by ensuring adequate extraction or dilution of fume, e.g. through the provision and maintenance of LEV, working in the open air or in a well-ventilated workshop.

Health surveillance

For new employees likely to be exposed to welding fume a respiratory questionnaire and lung function test should be carried out. For existing employees these should be repeated regularly.

Where welding fume has constituents which are respiratory sensitisers, such as chromium and nickel, the guidelines below should be followed.

Further Information

Assessment of exposure to fume from welding and allied processes, EH54, 1990, ISBN 0 7176 0570 1

The control of exposure to fume from welding, brazing and similar processes, EH55, 1990, ISBN 0 1188 5439 9

10.15 Sensitisers

Sensitisers are substances which can trigger irreversible allergic reactions. Amongst those found in the quarry industry are isocyanates in crusher backings, two-pack paints, adhesives and cement. The reaction from these substances can lead to asthma or dermatitis.

Control level

No exposure levels are specified. A COSHH assessment is required, with careful note made of the constituents of materials such as adhesives. Substances which may cause sensitization by inhalation are assigned risk phrase R42.

Precautions

If at all possible, avoid the use of sensitisers altogether by substituting another substance. Where this is not possible, follow the guidance given in L55¹⁵.

Health surveillance

Pre-employment medicals and ongoing surveillance for existing employees exposed to respiratory sensitisers should include lung function tests and respiratory questionnaires. The frequency of health checks will depend upon the degree of exposure, as detailed in MS25¹⁶.

In relation to dermatitis, individuals at risk should examine their skin regularly and report symptoms immediately to the appointed person. Regular skin inspections should also be carried out by a responsible person. All suspected cases should have immediate medical referral.

Further Information

Preventing asthma at work: How to control respiratory sensitisers, L55, 1994, ISBN 0 7176 0661 9

Medical aspects of occupational asthma, MS25, 1998, ISBN 0 7176 1547 2