

Audit Guidance with Check Lists **(for independent audit or self-audit)**

This appendix to the Quarry Health and Safety Management System comprises a main audit proforma and several supporting check lists as follows:

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Audit Proforma

RATINGS:

1 = The system meets the specification fully and / or measures show that performance conforms to requirements

2 = The system and performance are largely adequate but some development may be necessary (see observation)

N/C S = Non-conformity due to inadequacy of the system

N/C P = Non-conformity due to inadequacy of the performance

NOTES: This checklist is unlikely to be 'ticked off' sequentially. The auditor or audit team is advised to plan the approach to components and to review progress.

A simple numbering system for tracking non-conformities should be adopted. For example, by using a date and number, long outstanding corrective action can be easily noted (e.g. N/C S / 01.05 / 01).

More than one non-conformity may be observed against one section. They should be listed separately and identifiable. The phrase 'documented procedures exist' implies fitness-for-purpose of those procedures.

Particular attention should be paid to 3.2 (c) and 3.2 (d) (Risk Control)

SYSTEM COMPONENT	RATING
2.1 Occupational Health and Safety Policy	
a) A company OH&S policy exists, has been debated at Board level, with a proper record of the debate, and has been signed off by the Chairman or Managing Director.	
Description of Non-conformity or Observation:	

b) The OH&S policy includes a commitment to comply fully with OH&S legislation.	
Description of Non-conformity or Observation:	
c) The OH&S policy includes a commitment to addressing underlying OH&S risks and the pursuit of continuous improvement.	
Description of Non-conformity or Observation:	
d) The OH&S policy refers to strategic objectives and the organisation and arrangements to carry these out.	
Description of Non-conformity or Observation:	
e) The OH&S policy refers to the means of consulting with employees and disseminating information and the contribution of employees.	
Description of Non-conformity or Observation:	

f) The OH&S policy is documented, implemented and maintained. All statements in the policy can be shown to be consistently followed in the actual operation of the company.	
Description of Non-conformity or Observation:	
g) The OH&S policy is effectively communicated to all employees and other relevant persons and is available to interested parties.	
Description of Non-conformity or Observation:	
h) The OH&S policy is reviewed at least annually at Board level with appropriate input of up-to-date information.	
Description of Non-conformity or Observation:	
i) The OH&S policy is formally re-issued and brought to the attention of employees and other relevant persons when changes occur.	
Description of Non-conformity or Observation:	

2.2 Strategy	
a) Evidence exists that senior management has developed an OH&S improvement strategy for the company.	
Description of Non-conformity or Observation:	
b) Leadership is demonstrated in carrying the company forward in OH&S (e.g. visibility of senior and line management to promote OH&S; perception of management commitment to OH&S amongst employees).	
Description of Non-conformity or Observation:	
c) Employees are involved in seeking improvement in OH&S (e.g. evidence of discussions, confirmed with randomly chosen individuals, perception surveys).	
Description of Non-conformity or Observation:	

c) Evidence exists that the company has considered the capability of managers / supervisors in involving employees in OH&S matters (e.g. manager development programmes, theory awareness).	
Description of Non-conformity or Observation:	
3.1 Objectives and Programmes	
a) Strategic objective(s), set by senior management, cover the key high-level OH&S requirements of the company and give priority to OH&S improvement (health as well as safety).	
Description of Non-conformity or Observation:	
b) A programme of management objectives has been set, so as to ensure that company objectives and legal requirements are met and that all managers are aware of the priority given to OH&S improvement.	
Description of Non-conformity or Observation:	

c) A process exists to ensure that the OH&S objectives and the overall programmes are monitored and delivered, with evidence that this process is effective.	
Description of Non-conformity or Observation:	
3.2 Planning for Safe & Healthy Working (Risk Control)	
a) A documented procedure exists to ensure the comprehensive and effective identification of OH&S hazards, assessment of risk and establishment of controls, including for non-routine events.	
Description of Non-conformity or Observation:	
b) Responsibilities are defined to ensure the comprehensive and effective identification of OH&S hazards, assessment of risk and establishment of controls, including for non-routine events.	
Description of Non-conformity or Observation:	

<p>c) Safety hazards have been effectively identified and risk assessment and control is in place and effective, including for non-routine events. Include on-site visual and question-based checks.</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>d) Occupational Health hazards have been effectively identified and risk assessment and control is in place and effective, including for non-routine events. Include on-site visual and question-based checks</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>e) Workforce employees are able to show and to explain risk assessments and controls for work they undertake.</p>	
<p>Description of Non-conformity or Observation:</p>	

3.3 Legal and External Requirements	
a) Responsibilities are clearly defined with appropriate roles for ensuring that the company's management is aware of legal requirements and that they are fully met.	
Description of Non-conformity or Observation:	
b) As far as is reasonably practicable within the audit scope and resources, the auditor / audit team is satisfied that legal requirements are being met by the company.	
Description of Non-conformity or Observation:	
c) Other external requirements that the company is pursuing (e.g. the UK Quarrying Industry 'Target Zero') are under control (e.g. relate to management objectives and suitable progress being made).	
Description of Non-conformity or Observation:	

4.1 Responsibilities	
<p>a) There is a clear statement of the acceptance by senior management of overall responsibility for OH&S (e.g. in job descriptions, Terms of Reference, agreed policy document or similar vehicle for definition)</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>b) A nominated member of senior management (normally at Board level) has special responsibility for ensuring the effective implementation and performance of the OH&S management system.</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>c) At least one individual able to provide professional knowledge and advice is available to the company (e.g. H&S officer).</p>	
<p>Description of Non-conformity or Observation:</p>	

d) The duties of the 'operator' are suitably defined to meet the Quarries Regulations.	
Description of Non-conformity or Observation:	
e) All managers have OH&S responsibilities defined, commensurate to their operational roles.	
Description of Non-conformity or Observation:	
f) Responsibilities are defined within the company to ensure that account is taken of all employees' mental and physical abilities for their work and that adequate training is provided (ongoing or refreshed).	
Description of Non-conformity or Observation:	

<p>g) All employees have at least their minimum OH&S responsibilities defined (see minimum requirements).</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>h) The reporting structures of the company and for sites are clearly defined and documented so that it is appropriately accessible (e.g. organisation charts).</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>4.2 Competence and Training</p>	
<p>a) Documented procedures exist to ensure that all persons are competent in tasks they may perform (e.g. job specifications leading to training or support; assurance of contractor competence).</p>	
<p>Description of Non-conformity or Observation:</p>	

b) Training and other support in achieving competence is effectively provided and recorded. This includes OH&S awareness and personal responsibility for OH&S relating to the job.	
Description of Non-conformity or Observation:	
c) Training and support procedures and records ensure revision of requirements and development of any further competencies to take account of any changes relating to a person's work.	
Description of Non-conformity or Observation:	
d) Refresher training is periodically provided as appropriate.	
Description of Non-conformity or Observation:	

4.3 Consultation and Communication	
a) Documented procedures exist to ensure that pertinent OH&S information reaches employees and other relevant people (e.g. visitors, contractors, neighbours) and that employees can flag up information.	
Description of Non-conformity or Observation:	
b) Documented procedures exist to ensure that employees are involved in risk management and in the review of risk management policies and procedures.	
Description of Non-conformity or Observation:	
c) Documented procedures exist to ensure that the requirements of the H&SW Act for consultation with and representation of employees and their representatives are fully met and that all employees are fully aware.	
Description of Non-conformity or Observation:	

<p>d) The consultation and communication procedures described in (a), (b) and (c) are fully effective (e.g. confirmed with randomly chosen individuals, employee perception surveys).</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>4.4 Documentation of the System</p>	
<p>a) The OH&S management system is effectively documented, with linkage between components as appropriate to enable all users, including new arrivals, to be aware of and to find everything they might need.</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>b) Each quarry has a 'Health & Safety document' that contains all information required under the Quarries Regulations and is linked into the OH&S management system (e.g. in an index, controlled issues).</p>	
<p>Description of Non-conformity or Observation:</p>	

c) Data arising from OH&S management is stored effectively, backed up if in electronic form and linked to the system so that all authorised parties can locate it (e.g. filing index)	
Description of Non-conformity or Observation:	
4.5 Control of Documents and Data	
a) Documented procedures exist to ensure that all procedural documents relating to OH&S can be located, are of current issue at all relevant locations and have identifiable ownership for review, reissue, etc.	
Description of Non-conformity or Observation:	
b) Controlled documents are procedurally up to date, at correct issue, available at the correct locations, owned and reviewed as stated.	
Description of Non-conformity or Observation:	

c) All non-procedural documents that are of significance to OH&S, such as minutes of meetings, are fit for purpose (e.g. action point tracking) and can be effectively located.	
Description of Non-conformity or Observation:	
d) All data compiled as relevant to OH&S is suitably maintained and can be effectively located.	
Description of Non-conformity or Observation:	
e) Any documents or data that must be retained for legal or similar reasons are suitably identified. Former issues of OH&S procedures are archived and kept in legible condition in case of future legal enquiry.	
Description of Non-conformity or Observation:	

f) Any information held electronically is effectively identifiable, retrievable and backed up, and terminal availability has been planned to be robust.	
Description of Non-conformity or Observation:	
4.6 Operational Procedures	
a) Documented procedures exist for 'permit to work', meeting the requirements of the Quarries Regulations. <i>See Check List 1 below</i>	
Description of Non-conformity or Observation:	
b) Documented procedures exist for Explosives duties, meeting the requirements of the Quarries Regulations. <i>See Check List 2 below</i>	
Description of Non-conformity or Observation:	

<p>c) Documented procedures exist for dangerous areas, meeting the requirements of the Quarries Regulations. <i>See Check List 3 below</i></p>	
<p>Description of Non-conformity or Observation:</p>	
<p>d) Documented procedures exist for site lighting, meeting the requirements of the Quarries Regulations. <i>See Check List 3 below</i></p>	
<p>Description of Non-conformity or Observation:</p>	
<p>e) Documented procedures exist for excavations and tips, meeting the requirements of the Quarries Regulations. <i>See Check List 4 below</i></p>	
<p>Description of Non-conformity or Observation:</p>	

f) Documented procedures exist for the keeping of quarry records, meeting the requirements of the Quarries Regulations.	
Description of Non-conformity or Observation:	
g) Documented procedures exist for any aspects of work that require control and organisation of activities for OH&S reasons, including vehicles, machinery, dangerous substances, site design.	
Description of Non-conformity or Observation:	
h) Documented procedures exist relating to control of purchased goods, equipment and services.	
Description of Non-conformity or Observation:	

i) Documented procedures exist for effective communication of OH&S requirements to suppliers, contractors and visitors.	
Description of Non-conformity or Observation:	
j) Documented procedures exist for risk-based health surveillance, both prior to commencement of and during employment, and site health hazard control. <i>See Check List 5 below</i>	
Description of Non-conformity or Observation:	
k) Documented procedures exist for first aid training and kit provision.	
Description of Non-conformity or Observation:	

l) As far as is reasonably practicable within the audit scope and resources, the auditor / audit team is satisfied that the procedures described in (a) to (k) above are fully understood and followed.	
Description of Non-conformity or Observation:	
4.7 Emergency Planning	
a) Potential emergency situations have been anticipated and considered for emergency planning as far as is reasonably practicable, taking into account legislation, the characteristics of the site and activities upon it.	
Description of Non-conformity or Observation:	

b) Documented procedures exist for dealing with emergencies and are fit for purpose, being based where appropriate upon professional or specialist advice (including any health aspects).	
Description of Non-conformity or Observation:	
c) As far as is reasonably practicable within the audit scope and resources, the auditor / audit team considers that all persons likely to be affected (e.g. employees, contractors, visitors, neighbours) are kept suitably aware of the emergency procedures and their responsibilities.	
Description of Non-conformity or Observation:	
d) Where practicable, testing regimes (e.g. rehearsals, drills, equipment tests) are in place for emergency procedures, based where appropriate upon professional or specialist advice.	
Description of Non-conformity or Observation:	

<p>e) Responsibilities in the event of an emergency are clearly defined as appropriate, including clarity over the persons away from the site that must be contacted.</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>5.1 Process Control and Calibration</p>	
<p>a) Documented procedures exist to ensure monitoring of the quantitative and qualitative characteristics of OH&S performance (assuring legal and other key aspects without stifling the imaginative use of measures).</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>b) Performance reports are made available to managers as appropriate, including regular reports to senior management to enable them to understand the status of OH&S performance across the company.</p>	
<p>Description of Non-conformity or Observation:</p>	

<p>c) Safety-related measures show that safety is under control and improving (this should take account of both trailing and leading indicators).</p>	
<p>Description of Non-conformity or Observation:</p>	
<p>d) Health-related measures show that occupational health is under control and improving (this should take account of both trailing and leading indicators).</p>	
<p>Description of Non-conformity or Observation:</p>	

e) Documented procedures exist to ensure that all measuring equipment used in OH&S management is maintained and calibrated as appropriate (including assurance from contractors such a health specialists).	
Description of Non-conformity or Observation:	
f) Records show that equipment used in OH&S management is properly maintained and calibrated.	
Description of Non-conformity or Observation:	
5.2 Corrective and Preventive Action	
a) Responsibilities and authorities are defined for taking action arising from accidents, incidents, non-conformities, dangerous occurrences and concerns arising from measurement and monitoring (including health).	
Description of Non-conformity or Observation:	

b) Documented procedures exist to ensure that corrective/preventive action is effective, root cause analysis takes place, risk assessment & control precede any changes and procedural documents are amended.	
Description of Non-conformity or Observation:	
c) As far as is reasonably practicable within the audit scope and resources, the auditor / audit team is satisfied that corrective and preventive action is effectively carried out.	
Description of Non-conformity or Observation:	
5.3 Records	
a) Documented procedures exist to ensure that OH&S records are kept according to the system specification.	
Description of Non-conformity or Observation:	

b) As far as is reasonably practicable within the audit scope and resources, the auditor / audit team is satisfied that OH&S records are kept according to the system specification.	
Description of Non-conformity or Observation:	
5.4 Audit	
a) Documented procedures exist to ensure that a fit-for-purpose audit resource and process is in place to meet the system specification.	
Description of Non-conformity or Observation:	
b) Audit is conducted as specified and is effective in assuring the operation of and improvement to the OH&S management system.	
Description of Non-conformity or Observation:	

6. System Review	
<p>a) Documented procedures exist to ensure that (at least annual) review of the effectiveness of the OH&S management system takes place, with <u>opportunity for contribution from at least all managers and supervisors.</u></p>	
Description of Non-conformity or Observation:	
<p>b) A summated report of issues arising from the system review below senior management is presented to senior management to contribute to <u>their review and decisions regarding improvement to the system.</u></p>	
Description of Non-conformity or Observation:	
<p>c) Feedback is provided to all those who have taken part in the system review and any appropriate messages are communicated to employees and other relevant people (e.g. contractors)</p>	
Description of Non-conformity or Observation:	

d) The OH&S system review process has proven to be fit-for-purpose in ensuring the effectiveness of the system.	
Description of Non-conformity or Observation:	

CHECK LIST 1. PERMIT TO WORK

ITEM	Y/N	COMMENTS
1. Is a clear, well understood Permit to Work procedure in place?		
2. Are all personnel aware of the Permit to Work requirement?		
3. <i>Identify examples of hazardous operations or normally straightforward operations that may be hazardous in special circumstances.</i> Has Permit to Work has always been invoked?		
4. Does the procedure specify conditions to be fulfilled and hazard identification?		
5. Does the procedure specify precautions to be taken before, during and after the operation?		
6. Is management authority for issue of Permit to Work clearly defined?		
7. Are all Permits to Work clearly and unambiguously made out?		
8. Are all Permits to Work signed and dated by authorised 'issuing' manager and 'accepting' person?		
9. Are there suitable handover arrangements for personnel changes and completion?		
10. Are the permits backed up with suitable equipment and procedure for hazardous jobs? (e.g. appropriate breathing equipment, harness with lifeline and personnel for entering a confined space)		

11. Are contractors' equipment and procedure always fully suitable for hazardous jobs? (e.g. non-return bolts on man-baskets)		
12. As far as the auditor can reasonably assess, does evidence suggest that the procedure always results in suitably competent persons and appropriate precautions for hazardous work?		

N.B. Good HSE guidance exists for most foreseeable hazardous work and may normally be consulted at www.hse.gov.uk. Risk assessment and control for the site shall include anticipation of occasional hazardous tasks such as entering confined spaces, working at height, hot work, work on pipework and vessels, electrical work, work on machinery, digging, excavation or other special circumstances. **It is essential that people do not undertake hazardous work without proper protection, including work due to sudden requirements.**

CHECK LIST 2. BLASTING AND EXPLOSIVES MANAGEMENT

Under the Quarries Regulations, competence in the handling of explosives and related activities is vested in qualified Explosives Supervisors and Shot Firers. An auditor of the OH&S Management System is unlikely to have detailed current knowledge of the extensive procedures involved (guidelines are available from EPIC). However, a substantial amount of documentation surrounds these activities and can be verified to exist in well-presented and fit-for-purpose form. If there is any reason to doubt the effectiveness of management, an independent, currently qualified explosives supervisor should be called upon for advice. There follows a checklist of such items:

IMPORTANT NOTE: Where blasting is carried out by a contracted specialist company, as is often the case, a few of these items (such as up-to-date evidence of competency) may be held by the contractor. However, the quarry manager is strongly advised to go through this with the contractor to familiarise him/herself. Contractors are normally happy to confirm such things with a third party to provide assurance for all concerned.

ITEM	Y/N	COMMENTS
1. 'Explosives at Quarries' Guidance Notes (GN) 1 – 6 (EPIC) accessible		
2. Procedures for appointment of explosives personnel		
3. Training plan in place for anyone designated as a trainee		
4. Training / competence records for Explosives Supervisors		
5. Training / competence records for Shot Firers and Trainee Shot Firers		
6. Competence of others, e.g. storekeepers, sentries, guards, transport		
7. Letters of appointment for above posts (GN 4)		
8. Training / competence records for surveyors (GN 5)		
9. Procedures for shot firing operations		
10. Delivery notes for packaged explosives (noted as checked in)		

11. Procedure for any storage and custody of explosive materials on site		
12. Log of quantities of bulk explosives loaded into shot holes		
13. Procedure for mixing explosives on site		
14. Procedure for loading shot holes		
15. Procedure for clearing designated area		
16. Procedure for testing completed circuit		
17. Procedure for implementing warning systems prior to firing		
18. Procedure for inspecting the area before all clear signal after blast		
19. Procedure for managing bulk explosives vehicles and other transport of explosive materials		
20. Procedure covers the suitability of any equipment used		
21. Procedure covers the suitability of any lighting		
22. Assessment of the risk of accidental initiation at the blasting site (GN 2)		
23. Procedure for the provision of effective shelters (GN 2)		
24. Procedure for assessment of the danger zone (GN 2)		
25. Procedure for withdrawal of persons from danger zone (GN 2)		
26. Notices posted so that all affected persons are aware of shot firing times		

27. Provision of warning systems (GN 2), including notifying local residents		
28. Post-blast inspection evidence – for misfires, face condition		
29. Safeguarding arrangements for misfires (see GN 1 & 2)		
30. Records of misfires, with investigations and RIDDOR reports		
31. Procedure for safeguarding charged shot holes left overnight (GN 2)		
32. Evidence of spot checks, safety checks, independent audit		
33. Evidence that security checks have been carried out on personnel		
34. Procedure for monitoring compliance		
35. Record of reviews by site safety committee		
36. Blasting Specifications (BS) available (copied to all who have duties) - see 35 – 48 below		
37. (BS) Plan of the area based upon up to date survey		
38. (BS) Planned shot hole positions, length, diameter, angle of inclination, drill set direction		
39. (BS) Identifier number and surface co-ordinates of each shot hole		
40. (BS) Completed shot holes angle of inclination, direction, length, diameter and any sub-grade drilling		

41. (BS) Face profiles or other data to show burden around each shot hole		
42. (BS) Any geological anomalies identified		
43. (BS) Burden calculated for each shot hole		
44. (BS) Amount, type and placement of explosives, detonators, stemming		
45. (BS) Initiation system plan, e.g. diagram showing millisecond delays by hole		
46. (BS) Plan includes danger zone, shot firing and sentry positions		
47. (BS) Precautions re. visibility, fly rock, misfires, injury, guarding of loaded shot holes		
48. (BS) Date and time of blast		
49. (BS) Meteorological information		
50. (BS) Any environmental measures (e.g. planning constraints)		
51. Suitable maintenance of blasting records for three years		
52. Evidence of reviews of blasting practice and outcomes (minimum frequency specified in the quarry H&S document)		
53. Evidence that surveying equipment is maintained and calibrated		
54. Other procedures to meet special conditions at the site		

CHECK LIST 3. DANGEROUS AREAS AND LIGHTING

ITEM	Y/N	COMMENTS
1. Has the site been systematically reviewed by management to identify any dangerous areas?		
2. Are dangerous areas clearly marked as such?		
3. Are barriers or other such means in place to prevent inadvertent access to dangerous areas?		
4. Are all reasonable measures taken to protect the H&S of persons authorised to work in dangerous areas?		
5. Where failure of artificial lighting would increase the risk to H&S, is adequate emergency lighting in place, or personal lamps if this is impractical?		

CHECK LIST 4. GEOTECHNICS

The auditor is unlikely to be a specialist in geotechnics, but may make a reasonable judgement on the following items by asking questions from different perspectives and observing the standards of procedures and records.

ITEM	Y/N	COMMENTS
1. Do procedures exist to provide 'excavation and tips rules'?		
2. Do the procedures cover activities to ensure safe construction?		
3. Do the procedures cover activities to ensure safe operation?		
4. Do the procedures define the nature and extent of supervision?		
5. Do the procedures cover precautions to ensure H&S, safety and stability?		
6. Are competent persons available to carry out regular appraisals?		
7. Does the competence enable the identification of 'significant hazards'?		
8. Are signed, dated records of regular appraisals available, including significant findings and conclusions with reasons?		
9. Are these records available to all employers and persons working in the quarry?		
10. Are further appraisals carried out when changes occur (including effects upon neighbouring land) or any reason emerges to doubt previous conclusions?		

11. Where conclusions show the existence of a 'significant hazard', has a geotechnical assessment been carried out as soon as reasonably practicable? ¹		
12. Do clear records exist of geotechnical assessments, signed and dated by the geotechnical specialist with his / her professional qualifications recorded?		
13. Has all remedial work required by a geotechnical assessment been carried out by the specified date?		
14. Where a geotechnical assessment has identified a significant hazard (instability or movement), do procedures exist to ensure re-assessment every two years? ('Notifiable' tips or excavations)		
15. Where changes or other reasons to doubt a geotechnical assessment have occurred, has a further assessment been carried out as soon as reasonably practicable?		
16. Where no significant hazard was confirmed, are records available of the geotechnical specialist's specification for future appraisals?		
17. Are records available of the nature, quantity and location of any substances tipped at a notifiable tip?		
18. Do records confirm that all notification has met the requirements of the Quarries Regs? ²		
19. Are people working near faces trained to observe instability, especially after blasting?		

NOTES:

¹ Geotechnical Assessments:

An ACOP associated with the Quarries Regulations 1999 classifies the following features as a 'significant hazard', requiring geotechnical assessment by a Chartered Engineer or Chartered Geologist with defined experience (see below):

~ Solid Tips: Covering more than 10,000m² *or* more than 15m high *or* on land sloping at more than 1 in 12.

~ Liquid Tips: Contents more than 4m above land within 50m *or* containing more than 10,000m³.

~ Excavated Slopes in moderately weak or stronger rock: Single slopes more than 15m high *or* benched slopes steeper than 1 in 1 and between 15m and 30m high *or* benched slopes more than 30m high.

~ Excavated Slopes in rocks or soils weaker than weak rocks: Slopes higher than 7.5m and steeper than 1 vertical in 2 horizontal, *or*

~ Where other factors render excavations or tips a hazard

A geotechnical specialist employed for a geotechnical assessment of excavations or tips (including lagoons and screening bunds) shall be a chartered engineer or chartered geologist with three or more years' relevant experience in soil mechanics, rock mechanics or excavation engineering and competent to perform a geotechnical analysis to determine the hazard and risk arising from the excavation or tip being assessed.

² Notification of Excavations and Tips:

The operator shall give 30 days' notice to the HSE before commencing operations at a proposed excavation or tip that may reasonably be expected to present a significant hazard.

The operator shall inform the HSE 'as soon as possible' (i.e. immediately) after receiving the conclusions from a geotechnical specialist that a significant hazard exists at an existing excavation or tip (there are some variations with tips that have already been notified, e.g. under the Mines and Quarries Tips Regulations 1971 – if in doubt, confirmation should be sought from the HSE).

The notification shall include a description, with location, size, materials to be excavated or tipped and the conclusions reached by the geotechnical specialist.

Where, following geotechnical assessments every two years, a geotechnical specialist concludes that a significant hazard no longer exists, the operator shall inform the HSE within two months.

(These notes are a summary of key points from the Quarries Regulations 1999 and shall not be taken as legally authoritative. The regulations should be consulted – normally available at <http://www.opsi.gov.uk/si/si1999/19992024.htm>)

CHECKLIST 5 – OCCUPATIONAL HEALTH

The user is referred to the QNJAC guidelines entitled 'Occupational Health Management in the Quarry Industry' (OHMQI) and to the varied information provided by the HSE on specific topics.

ITEM	Y/N	COMMENTS
1. Is a regular health surveillance (HS) programme in place for all employees?		
2. Do the HS professionals hold the necessary specialist qualifications (see OHMQI)?		
3. Has consultation taken place to ensure that health surveillance is appropriate for the risks that exist?		
4. Has an appropriate HS data management procedure been agreed, that meets ethical, company and individual requirements?		
5. Does the HS process help employees with healthy lifestyle and general health issues?		
6. Are employees satisfied with the HS process?		
7. Does the HS programme assist the company in meeting the needs of people with disabilities?		
8. Are sickness absences analysed to identify any disease-related patterns?		
9. Is there a positive rehabilitation programme to assist return to work?		

10. Is the rehabilitation programme supported by effective reporting and information management?		
11. Is the rehabilitation process seen as beneficial by both employees and management?		
12. Are all internal work spaces well ventilated?		
13. Is the temperature monitored in internal work spaces and action taken to achieve recommended standards?		
14. Is lighting suitable and sufficient at all internal work places?		
15. Are any places where lighting failure may create a danger provided with suitable, independently powered lighting?		
16. Is there an appropriate cleaning programme for internal work areas and places such as wash rooms, rest areas, toilets, etc.?		
17. Have all surfaces requiring cleaning been provided in easily cleanable form?		
18. Are suitable and sufficient waste bins provided and emptied appropriately?		
19. Are any risks relating to cleaning controlled (e.g. slippery floor notices)?		
20. Is there reasonable protection against adverse weather (waterproof clothes and places to dry off)?		

21. Are all work spaces of suitable dimensions and with good emergency egress?		
22. Is suitable seating provided for all bench or desk work?		
23. Are all floors, corridors, walkways, stairs, etc., properly made and free from hazards?		
24. Are all windows of appropriate safety material, suitably placed and kept clean?		
25. Are there suitable, sufficient and clean toilets, sinks and, if appropriate, showers?		
26. Are all supplies such as hand cleansers, toilet rolls, etc., always available?		
27. Is there a supply of clean drinking water?		
28. Is there a suitable place for hanging individual clothing (clean, warm, dry, ventilated)		
29. Is there a separate place for wet or dirty work clothing?		
30. Is work clothing dry for each day?		
31. Is an appropriate changing area available?		
32. Are clean facilities with seating available for rest breaks and eating?		

33. Are hot drink (minimum a kettle) and food heating facilities available?		
34. Is there an effective 'no smoking' policy in common areas?		
35. If food is provided, are all relevant standards met? (e.g. Food Safety Act and related regulations, Environmental Health)		
36. Is food provision registered with the local authority (Environmental Health)?		
37. Have all food handlers been trained on recognised hygiene courses?		
38. If food is provided by a contractor, is the contract clear, including on meeting regulatory requirements?		
39. Are first aid facilities properly provided (to prevent consequent health impacts)?		
40. Are the Working Time regulations adhered to?		
41. Are appropriate health assessments provided for night work?		
42. Is there contaminated land? Have contaminant risks been assessed and controlled (PPE, etc.)?		
43. Is dust generation kept to a reasonable minimum?		
44. Are seals, filters, positive pressure, etc., well maintained to prevent dust exposure?		
45. Are dust levels monitored, using ambient and personal monitoring?		

46. Are dust exposure levels fully understood and limits complied with? (e.g. for Respirable Crystalline Silica)		
47. Is appropriate respiratory protective equipment available and used where needed?		
48. Do new employees have a medical examination, including respiratory checks and lung function?		
49. Do employees receive eyesight tests and obtain eyesight correction?		
50. Are any employees who fail to meet DVLA eyesight standards taken off driving until vision is corrected?		
51. Are eye tests provided for Display Screen Equipment (DSE) users?		
52. Are suitable chairs and work stations provided for regular DSE users?		
53. Do DSE users receive guidance in posture and working practice?		
54. Has the site been inspected for ionising radiation (e.g. from instrumentation or radon)?		
55. Are radioactive sources sealed and shielded? Is ventilation good in radon areas?		
56. Is there pre-work and at least annual HS for persons who may be exposed to ionising radiation?		
57. Are persons working with or near welding equipment appropriately protected from UV effects and eye damage?		

58. Has a risk assessment and control (with HS) been enacted for persons exposed to welding fumes?		
59. Are persons exposed to sunlight encouraged to cover their skin and use protective creams?		
60. Has a risk assessment and control been enacted for any exposure to strong electromagnetic fields?		
61. Is HSE guidance followed to avoid Legionnaire's disease in water systems?		
62. If asphalt is produced, has assessment and control been enacted for use of dichloromethane in labs?		
63. Have manual operations been reviewed to avoid poor posture, high force, bending, stretching or twisting?		
64. Have employees received training in manual handling?		
65. Are mechanical aids used to reduce manual handling risks as appropriate?		
66. Do new employees receive health assessment for musculoskeletal problems?		
67. Have hand tools been assessed for hand arm vibration (HAV)?		
68. Are work practices planned to reduce the risk of HAV?		

69. Do persons exposed to HAV receive health checks at the start, after six-months and subsequently?		
70. Have people received guidance on HAV?		
71. Is the level of Whole Body Vibration (WBV) in vehicles and other machines understood?		
72. Are vehicles provided with adjustable suspension seats to reduce WBV?		
73. Is vehicle maintenance good enough to control WBV effectively (tyres, suspension, seats)?		
74. Are all road and other driving surfaces well maintained to avoid WBV?		
75. Where residual risk of WBV remains, are work practices adapted and guidance given?		
76. Have work areas been measured, mapped and clearly signed for noise action levels?		
77. Does the purchasing policy move towards less noisy equipment?		
78. Are reasonable measures taken to reduce noise through engineering and maintenance?		
79. Is good hearing protection equipment readily provided?		
80. Is clear instruction and guidance about noise given to personnel?		

81. Is audiometry provided for new people and on a regular basis thereafter?		
82. Have the risks from petroleum products (oils, grease, bitumen) been assessed and controlled?		
83. Is clear guidance provided to the personnel on petroleum products?		
84. Are barrier creams, suitable hand cleansers, after-work creams and appropriate PPE provided?		
85. Are overalls regularly laundered to remove petroleum products and other irritants?		
86. Is HS carried out for skin problems at least every three years?		
87. Is the site management alert to any stress problems amongst the workforce?		
88. Has the site management received guidance in helping people through stress?		
89. Does the company have a suitable Drugs and Alcohol policy (including contractors)?		
90. Is the site management alert to the possibility of persons using drugs or alcohol?		
91. Are any sensitizers (e.g. isocyanates) in use? (crusher backings / 2-pack paints / adhesives / cement)		

92. Can sensitizers be avoided? Has clear guidance been provided where sensitizers are present?		
93. Does HS include lung function and respiratory checks for asthma? Do people check skin for dermatitis symptoms? (sensitizer effects)		
94. Is there confidence that the health of contract personnel is subject to the same level of protection on all the above checks? (i.e. covered at the contract stage / induction / ongoing monitoring)		

CHECKLIST 6 – GENERAL REVIEW

This general checklist provides the basis for a practical inspection of site conditions to confirm that the OH&S management system is effective at the working level. It also takes into account some remaining items from the Quarries Regulations 1999 not specifically dealt with in Checklists 1 – 4.

ITEM	Y/N	COMMENTS
1. Are all dangerous parts of machinery securely guarded (including to BS for conveyors where appropriate)?		
2. Are all fixed guards securely bolted into position and in good condition?		
3. Are stop buttons / trip wires in good condition and tested periodically?		
4. Are all walkways clean and free from spillage?		
5. Are all handrails and toe boards in good condition?		
6. Are all fire extinguishers well positioned, inspected and confirmed in working order?		
7. Are fire exits marked and clear of obstruction?		
8. Are checks on fire alarms carried out regularly?		
9. Are there schedules for regular fire drills? Are fire drills carried out?		
10. Have fire risk assessments been carried out?		
11. Are there adequate numbers of persons qualified in first-aid?		

12. Are first aid lists well posted and up to date?		
13. Are first aid boxes easily available and fully stocked with up to date contents (specified)?		
14. Is perimeter fencing fit for purpose (reviewed for CROW Act)?		
15. Are perimeter fences and site entrances suitably signed?		
16. Is there a fit for purpose signing in / out procedure for visitors?		
17. Are roadways well marked and in good repair (e.g. free from potholes?)		
18. Are pedestrian walkways clearly signed?		
19. Are benches and haul roads well designed and in safe condition for vehicle use?		
20. Are bunds, edge protection, safety barriers and any precautions needed for lagoons in good condition and to specification?		
21. Are daily inspections made for loose ground, loose rocks or similar hazards close to working areas or roadways prior to starting work?		
22. Are appropriate inspection schedules in place for fixed plant?		
23. Is fixed plant well maintained, with fitters' schedules and records in place?		

24. Are appropriate inspection schedules in place for buildings and the site in general?		
25. Are records kept of inspections; signed, counter-signed by management and dated?		
26. Do such records contain details of related maintenance, tests, defects found and steps taken to remedy them?		
27. Are sufficient competent persons available to carry out such inspections, tests, maintenance and consequent corrective action?		
28. Are site speed limits appropriate, well signed and observed by all drivers?		
29. Are signs in general clear and in good condition, conveying the H&S messages well?		
30. Is mobile plant in good condition? Does it have modern suspension seats and good cab ergonomics?		
31. Is mobile plant well maintained, with fitters' schedules and records in place?		
32. Does mobile plant have good safety kit (e.g. good mirrors, flashing lights, reversing alarms, VMS radar, cameras)		
33. Is mobile plant cabin access, egress and other necessary access around vehicles as safe as reasonably possible?		
34. Are seat belts fit for purpose and suitably secured? Are they always used?		

35. Are brake tests carried out frequently and effectively?		
36. Are daily inspection sheets in use before taking vehicles out?		
37. Are vehicles isolated and locked securely when not in use (including smaller vehicles such as fork lifts)?		
38. Are high visibility clothing and steel-capped footwear worn by all personnel, including visitors, drivers, etc?		
39. Is an appropriate policy for protective headgear and eye protection in place and followed?		
40. Has noise monitoring been carried out and are mandatory ear protection zones clearly signed and respected?		
41. Has appropriate risk-based dust monitoring been carried out (e.g. personal dust collectors) and are dust protection requirements clearly signed and respected?		
42. Have appropriate procedures been followed for other personal protection? (e.g. HAV, WBV, breathing apparatus, protective suits)		
43. Is personal protective equipment well provided wherever required, of good quality, traceable (e.g. signed for at issue) and subject to effective stock control?		
44. Has consideration been given to suitability, comfort and ease of use of PPE (asking the users)?		

45. Are PPE provisions for visitors good?		
46. Is the Health and Safety Document fit-for-purpose, up to date and accessible?		
47. Does all documentation tie together for issue, review, etc.?		
48. Is the Health and Safety Law poster clearly displayed?		
49. Is the Management Structure (with responsibilities) up to date and displayed effectively?		
50. Is the Employer's liability insurance up to date and displayed effectively?		
51. Is the General Inspection Scheme adequately covered for the site?		
52. Are Geotechnical inspections well documented and comprehensive?		
53. Are any Local Exhaust Ventilation inspections fit for purpose and well documented?		
54. Are chains and lifting gear subject to suitable checks and insurance inspections?		
55. Are pressure systems subject to suitable checks and insurance inspections?		
56. Are electrical appliance tests carried out regularly and effectively, including verification that all electrical installations meet the latest standards?		

57. Are site housekeeping checks carried out regularly and effectively?		
58. Is a site disaster plan in place?		
59. Do contingency plans address emergency planning issues?		
60. Are comprehensive plans of the site easily available and up to date?		
61. Are site rescue teams in place to cover emergencies, with up to date training and equipment and able to address all potential problems on the site?		
62. Is there an effective register or other central guide to risk assessments, with review status for ongoing situations?		
63. Are risk assessments for ongoing work comprehensive and regularly reviewed?		
64. Are the people who carry out the work familiar with and able to produce the risk assessments?		
65. Have all the controls identified through the RA process been put in place (e.g. competence; procedure; equipment; permit to work)		
66. Are RAs in place for lone working situations?		
67. Are RAs in place for any confined space work or working at height, with suitable precautions?		

68. Are RAs in place for all maintenance work?		
69. Does the site induction procedure ensure that contractors assess their RAs against actual site situations?		
70. Are all new or changed working circumstances fully assessed for risk?		
71. Is there an effective site H&S committee enabling effective employee participation?		
72. Is appropriate training provided to the employee representatives to enable them to be effective?		
73. Are regular site inspections carried out by site employee representatives?		
74. Is there an effective minute-taking and action point monitoring process for the site H&S committee?		
75. Are work procedures well constructed, risk-assessed, comprehensive, up to date and regularly reviewed?		
76. Are work procedures easily located and familiar to those doing the work? (e.g. by use of up to date laminated versions in the workplace)		
77. Is there an effective control procedure for work procedures (e.g. register with issue and review dates and author)		
78. Is there an effective procedure for creating risk-assessed systems of work for new or temporary circumstances?		

79. Have any generic (e.g. company-wide) procedures or RAs been reviewed for applicability to the site?		
80. Does everyone adhere to the work procedures?		
81. Are isolation procedures in place in all situations where they are appropriate?		
82. Are isolation procedures well thought through, with good locks where appropriate, and rigorously controlled?		
83. Does everyone adhere to the isolation procedures? (Note: poor electrical, mechanical or chemical isolation are frequently related to serious incidents)		
84. Are competence requirements clearly defined for all jobs on the site, including training?		
85. Is competence assured within a defined, appropriate timescale for all employees?		
86. Are training and development needs for individuals defined at the start of employment and at regular review?		
87. Are competence and training requirements and provision clearly recorded to enable the management of provision?		
88. Is 'on the job' support and release to attend training provided to meet the requirement?		
89. Has every employee been given a copy of the H&S policy?		

90. Is the policy regularly reviewed? Are updates fully communicated to all?		
91. Are any site-specific policy elements required to augment company policy?		
92. Are site-specific policy elements in place, reviewed and communicated?		
93. Are all unsafe / unhealthy incidents (including accidents) reported and logged?		
94. Are investigations carried out into causes of incidents?		
95. Do workforce employees contribute to the investigations into causes of incidents?		
96. Is there a coherent management approach that uses findings of incident investigations for company learning / improvement?		
97. Have COSHH requirements been fully carried out (for incoming and outgoing substances)?		
98. Are all controls derived from COSHH assessments in place? (storage, handling, protection, housekeeping, etc.)		
99. Are COSHH data sheets and user-friendly handling procedures available at the points of use?		
100. Are all storage bins and similar structures regularly inspected by site personnel?		
101. Are all storage bins and similar structures subject to insurance inspections?		

102. Are these inspections defined in procedures?		
103. Are suitable and sufficient welfare facilities provided, well ventilated and hygienically cleaned as appropriate?		
104. Are safety awareness campaigns regularly conducted?		
105. Are toolbox talks delivered regularly, with full attendance or follow-up?		
106. Is there a fit-for-purpose list of approved contractors, with criteria defined for approval?		
107. Is there a feedback procedure to ensure continuing suitability of contractors and amendment to the list?		
108. Are contractors' insurance, qualifications, risk assessments, method statements, H&S policy confirmed?		
109. Is there a fit-for-purpose induction process for contractors, sub-contractors and other visitors to site?		
110. Does the induction cover all relevant site hazards, rules, possible emergencies, welfare and confirm items in 108 above?		
111. Are contract employees always turned away if they do not comply fully?		
112. Are contractors effectively monitored while on site?		

113. Do all controls on contract work appear to be working effectively?		
114. Are all contract employees present fully aware of the H&S procedures that affect them?		
115. Have manual handling assessments been carried out and acted on?		
116. Have display screen equipment assessments been carried out and acted on?		
117. Is a regular, risk-based health surveillance programme in place for all employees?		
118. Are all hygiene risks controlled? (such as washroom cleanliness, milk in fridges, etc.)		
119. Has particular attention been given to procedures involving delivery and use of any dangerous substances, with updated training to authorised employees and warnings to others?		
120. Has the site been reviewed for risk of explosion and a plan prepared detailing the equipment and measures for the protection of people from an explosion?		
121. Has the site been reviewed for risk from toxic gases and a plan prepared detailing the equipment and measures for the protection of people?		

CHECKLIST 7 – HEALTH & SAFETY DOCUMENT

The Quarries Regulations 1999 require that certain elements of the health and safety management of a quarry be contained in a 'Health and Safety Document' (written record) for the site. There follows a check-list summarising the required contents. Many of these sections are covered in greater detail by other check-lists and requirements in the Quarry Health and Safety Management System (QHSMS).

ITEM	Y/N	COMMENTS
1. Comprehensive risk assessments for the site and operations.		
2. Measures in place to safeguard people at the site and nearby (risk controls), including design, use and maintenance of the quarry and plant. (Regular and 'as and when changes occur' – including clearly noted statutory requirements and review periods)		
3. Co-ordination statement for the safeguarding measures ('who, when, how' the procedures and checks will be carried out)		
4. The management structure with authorities and duties.		
5. Rules on the safe use of equipment.		
6. Details of inspection, maintenance and testing schemes for the quarry, buildings and plant, including inspection of faces for loose ground or rock prior to commencing or recommencing work. Signed and counter-signed.		
7. Evidence that sufficient competent people are available for these inspection regimes (record of personnel with linked competence)		

8. Rules controlling vehicles.		
9. Permit to Work procedure.		
10. Explosives and shot-firing rules.		
11. Excavations and tips rules.		
12. Appraisals and assessments of excavations and tips.		
13. Health surveillance arrangements.		
14. Explosion risk assessments and risk control plan (equipment and measures).		
15. Toxic gas risk assessments and protection plan (equipment and measures).		
16. A well-surveyed plan of the quarry, clearly identifying all parts where mineral extraction, processing and other 'preparation for sale' activities take place. This will be supported by ongoing survey as extraction progresses.		
17. The contents of the H&S document shall be kept up to date. (documentation control)		
18. The H&S document shall be available to all people and employers of people that work at the quarry.		
19. All duties in the H&S document shall be carried out and procedures and plans shall be followed.		

CHECKLIST 8 – LEADING INDICATORS

The following checks relate to characteristics of the organisation that, if positive and effective, should provide a particular indication of good future health and safety performance.

ITEM	Y/N	COMMENTS
1. Is there a senior management 'champion' for H&S?		
2. Does the MD (or equivalent) give company-wide messages of support for H&S improvement?		
3. Do senior managers appear in support of H&S improvement activity? (e.g. site visits, photos in magazine, presentation of NVQ, etc.)		
4. Are there high-level objective(s) for H&S improvement, of equal status with financial and other board-level objectives?		
5. Are all management regular team meeting agendas mandated to include H&S review?		
6. Do all line managers have H&S improvement objectives?		
7. Are line managers' H&S objectives fully integrated with other objectives, in a formal objective-setting and review process?		
8. Is there a competent H&S audit function in place?		
9. Does the audit programme cover all places and processes at least once every 2 years?		

10. Are non-conformity counts close to zero (based on competent audit)?		
11. Are non-conformities and actionable observations dealt with quickly? (e.g. 90% within 4 weeks)		
12. Is the H&S officer (or equivalent) regularly included in operational management meetings?		
13. Are unsafe incidents and behaviours analysed and grouped to identify types and trends?		
14. Are the root causes of incidents, accidents and observed unsafe behaviour investigated to identify solutions?		
15. Are risk assessments and systems of work regularly reviewed? (e.g. every 3 years or when changes occur)		
16. Do all employees receive regular talks or interactive discussions about H&S? (e.g. 'toolbox talks' at least 4 times per year)		
17. Do all employees receive regular company-wide messages encouraging H&S improvement? (e.g. poster campaigns, specific issue guidance)		
18. Has every person on site received effective site H&S induction?		
19. Is there publicised recognition of good H&S practice within the company?		

20. Are all jobs effectively analysed to identify competence requirements?		
21. Are employees effectively developed to competence within defined, reasonable time scales?		
22. Do managers and supervisors receive regular competence review and continuing development? (e.g. annual review)		
23. Is there a systematic approach to involving all employees in thinking about improving H&S? (e.g. behavioural safety programme, site safety walkabout, involvement in risk assessment review)		
24. Is occupational health well managed to prevent exposure to risk? (i.e. adherence to QNJAC OH guidance)		
25. Is this a 'tidy' site, kept free of obvious physical hazards, unused items and structures and equipment in obviously poor condition?		

AUTHOR'S NOTES:

The material contained in the above lists is in part original and in part adapted from other sources that have been made available to the industry. It is provided in good faith and the authors take no responsibility for completeness in covering legal requirements.

While the above guidance will enable assurance that the vast majority of health and safety issues for a quarry are considered, it is impossible to cover every eventuality in check lists and there will always be the possibility of less usual aspects to consider. Examples might be the storage of ammonium nitrate on a site that requires certain conditions or a construction project that needs compliance to the Construction (Design & Maintenance) Regulations. **It is critical that the management elements such as objective-setting and review become embedded in the way of working so that an ongoing process of consideration and ownership of requirements takes place, seeking specialist advice where appropriate.**