

9 August 2006

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Dear Sir,

Consultation – SEPA Code of Practice for Owners and Operators of Quarries and other Mineral Extraction Sites

In answer to your request for comments on the above consultation document we are pleased to put forward the following points.

The British Aggregates Association is a trade association that looks after the interests of over 70 independent quarry operators located throughout the UK with over 100 operating sites. We respond to many government consultations that apply to the quarrying industry, particularly in areas of planning and health and safety. In Scotland we sit on the working committee for MPS 4 Mineral Working (this has superseded NPPG 4). We also sit on some QNJAC committees for HSE policies that concern quarrying.

We find the document useful in terms of the general principles, and it is recognised that the specifics of each site will be taken into account during any assessment, but there are a number of detail items with which we are concerned:

1. Under the list of “DO’s”, 4th bullet point: Minimising the area of exposed ground is not always good practice, if it increases the surface gradient and consequent erosive force of surface water runoff; also the stability implications of doing so have also to be considered. In the 9th bullet point, it appears a little surprising to find advice regarding explosives being given in a SEPA document. The last bullet point in the list of “DO NOT’s” appears to repeat much of the preceding bullet point, and the two points ought to be combined.
2. P3, top paragraph: Should be noted that EU Waste Framework Directive does not apply to **any** excavation, surface or underground, being backfilled with the waste that arose from it, not just opencast mines. Note, however, that if the waste level rises above the original ground level, that part above old ground level would be covered by the Directive.
3. P5, “Groundwater Basics” is too simplified. Not all infiltrating water will descend to the water table. Some is retained in the vadose zone by capillary forces and much is lost *via* transpiration through plants in the summer season.

4. P6. The list of possible pollutants is comprehensive but alarmist in the context of how mines and quarries routinely operate to risk screen and manage potential pollutants. We suggest that the role of risk screening and active management (as is routinely practised in the industry) and the need for a management plan for each of the identified risks is also emphasised at this point.
5. P9, last paragraph 1st bullet point: Whilst early consultation with SEPA and the planning authority is advisable, we do not see it as essential before any Site Investigation work begins. It is most necessary to establish whether there is any worthwhile mineral first. Consultation will be much more beneficial when some data is available.
6. P9-11 general. More emphasis as to the scope of the EIA in consultation with SEPA is required in this section to highlight only the *necessary* pre-operational requirements; this may result in more or less work than is set out in this section.
7. P15 section 3.4.4 & 3.4.5. This comprises generic reasonable advice, but consideration of adjacent land uses by SEPA and Planning Authorities (e.g. farming *etc.*) should be considered (agro-chemical signatures with elevated nitrates/phosphates are common nationwide).
8. P16 section 3.4.6. The definition of waste rock is incorrect. It should read “Broken rock that has been extracted to gain access and recover the mineral resource.” We wish to make it absolutely clear that when quarrying for construction aggregates there is no such thing as “waste”. There are *primary by products* such as scalplings, but no waste. Everything is marketable, including topsoil.
9. In the first paragraph of this section 3.4.6, during quarrying operations overburden soil and rock is often permanently stored outside the excavation void. As noted above, the Directive does not apply to any excavation, surface or underground, being backfilled with the waste that arose from it. The exemption applies to quarries and deep mines as well as opencast mines. Clay overburden is normally stored at the quarry for two purposes. Firstly as a planning condition to use a screening bund to plant trees and hide parts of the quarry from view and secondly to use to reinstate the quarry at the end of its working life.
10. In the second paragraph of section 3.4.6, capping stockpiles with clay is a generally impractical operation. Mention ought to be made of compacting both stockpiles and waste heaps to reduce permeability and water ingress. We would point out that the Reference Document on Best Available Technologies for Management of Tailings and Waste Rock “ contains a number of serious deficiencies and we would not recommend its use without numerous reservations.
11. P18. We consider the detailed methodology to be doubtful. The emphasis on marine bands seems irrelevant/anecdotal. There is no mention of assessing the presence of high phosphorous and iron content in the ironstone bands frequently to be met with in Coal Measure sequences, although both may cause pollution when weathered. The presence of sulphur in a coal seam is immaterial if the seam is going to be worked - it is the presence of pyrite in the shales that is most likely to give rise to Acid Rock Drainage – although this is detailed in the reference

document, it needs to be reiterated here as it is the greatest potential polluter. It would seem possible to define general parameters for the pollution potential of various Coal Measure sequences, without undertaking detailed analysis of the source in each instance.

12. P19. The nature of WAC leachate testing needs to be more fully considered by SEPA with respect to the methodology used in representing actual oxidising conditions encountered on sites.
13. P20, Overburden storage of excavated material good practice box.
 - 4th bullet point: as noted above minimising the area of exposed ground is not always good practice, if it increases the surface gradient and consequent erosive force of surface water runoff (and stability implications).
 - 5th bullet point: locating stockpiles on impermeable ground should only be necessary if they contain materials that could pollute the ground water. Should be no need to limit (for instance) sand and gravel stockpile location in this manner.
 - 6th bullet point: grading to promote runoff needs to be done carefully. Rapid runoff can exacerbate the silt load.
 - 7th bullet point: buffering with limestone chips is unlikely to be practical in many situations and will add to undesirable increase in lorry traffic where limestone aggregate has to be imported from a distance.
 - 8th bullet point: compaction is likely to be a far more practical and method of reducing infiltration and oxidation.
14. P22, section 3.4.7. We would recommend that if any significant remnant of explosive remains after a blast, serious consideration should be given to changing blasting methods or blasting contractor.
15. P22, section 3.4.8. The blanket comment on additives is too bland. There are a number of different types, some of which will not cause pollution. Discussions with SEPA and the manufacturers should be recommended when using additives.
16. P23, section 3.4.10. We query how great the risk from machinery in a mine may be. During working below the original ground water table, pumping from the mine sumps will be taking place. These will be the local low points to which the groundwater (and any pollutants) flow. The machinery is unlikely to be left after the mine is abandoned.
17. P23, section 3.4.11. It should be noted that peat wastes are specifically excluded from many of the controls within the EU Directive and reference to this should be made.
18. P24, section 3.4.13. Careful selection of flocculant should be made. Not all are polluting.
19. P25, Controlling sediment in runoff. This box should start with a comment to the effect that surface water drainage needs to be considered at the design stage. Adequate room needs to be assigned for silt settlement lagoons at the point of discharge to external water courses. As noted above, minimising the area of stockpiles may be counterproductive in increasing the amount of silt eroded off of them.

20. Appendix 1 CAR(2005) Schedule. Item 7 “Metals and their compounds” needs qualification. Nearly all rocks contain metal compounds i.e. Limestone is principally Calcium Carbonate, clays and shales are principally complex Aluminium Silicates, both of which are metal compounds. Indeed the only rock not to contain a metal compound would be pure quartzite.
21. Appendix 3. The section needs to state “Potential” occurrence as not all will be present as a possible source. It would be useful if the pollution risk associated with each were noted as many of the instances are very low *e.g.* pollution potential from nitrates/phosphates from explosives. The third row of the table refers only to Phosphate and includes explosives as a potential source. Explosives commonly used in quarries would be unlikely to contain significant quantities of phosphates.

To conclude, we find a number of the points mentioned somewhat bizarre, particularly those that refer to explosives and the use of limestone chippings as a buffer to some backfills. In both these areas the industry has never heard of these apparent problems or solutions. It is further noted that all mineral operations are lumped together, including deep mining, opencast coal and quarrying. These are three distinctly separate industries. Whilst it is appreciated that the code of practice applies to all mineral operations and that it is not practical to write three papers, it is nevertheless assumed that each site will be treated as an individual site. For example, the dewatering of a hard rock quarry is a completely different issue from the dewatering a deep metaliferous mine.

We thank you for giving us the opportunity to comment on this document and trust that you will give the points that we have made your due consideration. Should you require any further clarification on any of the points above then please do not hesitate to contact us.

Yours faithfully

Richard Bird
Executive Officer