MINING, TAILINGS FACILITIES, WATER QUALITY PROTECTION GUIDELINES

2563. Hon Nigel Hallett to the Minister for Education and Training representing the Minister for the Environment

I refer to a document which I understand is titled 'Water Quality Protection Guidelines No. 2, Mining and Mineral Processing, Tailings Facilities 2000' which were endorsed/signed and agreed upon by the Waters and Rivers Commission, Department of Environmental Protection and the Department of Minerals and Energy -

(1) Is it correct that part of this document referred to above states 'Tailings are commonly disposed of in purpose built containment dams, mined - out voids, valleys in overburden stripping or underground mined areas. Where possible a site should be selected where the natural ground exhibits a permeability of less than 10-9 m/s. Where this is not possible an engineered lining system may be required to protect underlying groundwater resources.'?

(2) If no to (1), will the Minister quote the full text from the document?

(3) Can the Minister give the reasons why the Department previously recommended to proponents of tailings dams that a site should be selected where the natural ground permeability exhibits a permeability of less that 10-9 m/s given that this can be very costly for proponents and that the Department acknowledges that seepage is inevitable?

(4) If no to (3), why not?

(5) Can the Minister explain why the Department previously recommended that where it was not possible to have a site where the natural ground exhibits a permeability of less than 10-9 m/s, then an engineered lining system may be required to protect underlying groundwater resources given that this can be very costly for proponents and that the Department acknowledges that seepage is inevitable?

(6) If no to (5), why not?

(7) Can the Minister explain the importance and reasons why there is a need for where anomalous analytical results occur the site should be immediately retested/resampled to confirm the validity of the result given that this can involve a substantial cost?

(8) If no to (7), why not?

(9) Is it correct that part of this document referred to above states 'Seepage through designed permeable walls and bunds should be captured by perimeter drains that feed containment dams that have been sized accordingly'?

(10) If no to (9), will the Minister quote the full text from the document?

(11) Can the Minister specifically explain the reasons why the Department previously recommended that seepage be captured by perimeter drains that feed containment dams given that the cost of constructing perimeter drains and containment dams can involve a substantial cost when the Department acknowledges that seepage through the bottom of the tailings dam is inevitable?

(12) If no to (11), why not?

Hon LJILJANNA RAVLICH replied:

The Minister for the Environment: Science has provided the following response:

(1) Yes.

(2) Not applicable.

(3) Yes. The guidelines were developed in consultation between the Water and Rivers Commission, Department of Environmental Protection and Department of Minerals and Energy. These guidelines were developed to establish actions required by operators to meet there obligations under all of the Acts administered by those Departments and to also guide operators into areas of best practice that may be over and above legislative requirements. As a guideline they need to be related to local conditions and relevant environmental values.

The Department continues to recommend that mining waste containment structures are constructed to limit seepage rates under normal operating conditions to 10-9 metres per second, however this will be established based on an assessment of local conditions. This equates to an equivalent water seepage rate of three centimetres per year. This limit can be achieved by appropriate soils management and engineering compaction. This level of seepage is considered compatible with protection of surrounding environmental values under most circumstances.

(4) Not applicable

(5) Yes. Refer to response to Q3. There are a range of engineering options which may include, but not be limited to compaction of insitu soils, use of suitable soils taken from a nearby borrow pit or use of synthetic liners that allow the recommended seepage rate limit to be attained.

(6) Not applicable.

(7) Yes. Due to a range of factors eg. changes to tailings management practices, sampling or analytical errors, or rainfall events there can be considerable variation in sample results over time. Where a laboratory result gives an anomalous reading when compared against historical data, it is standard quality assurance practice to re-sample as a check of the validity of the results prior to requiring expensive corrective actions be undertaken by the project operator on the basis of a single result. This is often judged on a case by case basis, in reference to local conditions and other results.

(8) Not applicable.

(9) Yes.

(10) Not applicable.

(11) Unnecessary impacts covered by the Mining and Mineral Processing Guidelines 2000 were not restricted to those defined under the Regulations of the Environmental Protection Act 1986. The then Department of Minerals and Energy was a co-author of the Guidelines, and along with the Department of Environmental Protection and Water and Rivers Commission were seeking to provide statements of best practice for the mineral industry that balanced environmental, economic and social factors.

In the Goldfields area, where low permeability clay soils underlay many mineral processing tenements, the principal seepage pathways were often considered to be lateral movement in near surface permeable top-soils. A shallow external perimeter drain allows for the capture of this seepage and its collection before leaving the area of control of the project operator, and possibly posing a risk of harm to the downstream environment. Again this needs to be judged against local conditions and the relevant environmental value for the area.

(12) Not applicable.