Nuclear Decommissioning Authority

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Mr Rhuari Bennet
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Our Ref: ATE/LRG/ 01/10/11

21 October 2011

Dear Rhuari, R huari,

Re: Geological Disposal Facility- rock spoil

We have carefully considered Professor Smythe's presentation on the storage and transport of rock spoil arising from the implementation of a geological disposal facility.

We do not agree with the assertion that statements made by the NDA in relation to these issues are misleading. In our reports and correspondence we take care to explain that our design and assessment work at this early stage of the MRWS process is indicative and generic. This is why we make assumptions and why we will take into account site specific information as part of future assessments. We explain these assumptions that underpin our work and that there is a wide range of possible implementation scenarios including options for managing excavation spoil.

The Generic Environmental and Sustainability Report referenced by Professor Smythe presents several scenarios based on three generic geological settings and two possible waste inventories for disposal. For the higher strength rock "Derived Inventory Reference Case excluding Pu/U" all excavated rock would be stored on site, in the form of surface bunds and/or be used for backfilling. The report makes very clear that for other geological settings and inventories quantities of surplus excavated rock may need to be taken off-site[1]. The quote used by Professor Smythe in slide 2 of his presentation also makes this clear, albeit the quotation as presented is incomplete.

In the last slide of his presentation, Professor Smythe sets out spoil volume figures provided by the NDA in the Generic Environmental and Sustainability Report as the basis of his calculations. We do not dispute these, or the assumed spoil density figures used which appear reasonable. However, we do not recognise the figures quoted on slide 10 of the presentation for backfill volumes or excess spoil. The correct figures can be found in the Generic Environmental and Sustainability Report[1].

[1] Entec (October, 2010) *Geological Disposal: Generic Environmental and Sustainability Report for a Geological Disposal Facility – Main Report* (Entec Doc Reg No.: 26069-02) – see Table 2.2 and associated footnotes.

Nuclear
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In slide 12 of his presentation, Professor Smythe suggests a period of 10 years for removal of excess spoil. In reality the excavation of material will take place over almost the full operational life of the facility as we assume the disposal facility will be progressively excavated in parallel to waste disposal operations. Material which is excavated would initially be used to construct screening bunds at the site. The illustrative designs published by the NDA in 2011 assume bunds constructed to a height of around 12m which will hold just over 3.5million cubic meters of the initial material excavated from the facility.

By the time the bunds are fully constructed, some of the material that continues to be excavated could then be utilized as backfill and it is only the excess of the excavated material which is not used for backfilling which would require removal from site in the higher inventory scenarios which are described by Professor Smythe. This would be carried out over the remaining operational life of the facility and consequently transport movements would be spread over many years rather than in a concentrated phase. As made clear in our reports and correspondence it is likely that the transport of bulk materials would be by rail rather than road.

As noted above there is a wide range of possible scenarios for spoil management, some more or less plausible than others, with a wide range of possible environmental effects. We believe that the range of scenarios presented in our early design and assessment work is reasonable and provides our stakeholders with a good idea of the potential environmental effects associated with spoil management. We do not believe that the scenarios used by Professor Smythe to illustrate the scale of spoil movement – for example, storage in pyramidal shaped mounds and compulsory purchase of the Ravenglass and Eskdale Railway for the transport of excess spoil – are reasonable. One aspect that will be considered is potential beneficial remediation works in reasonable proximity to a site, for example infilling of disused quarries as part of an agreed remediation scheme.

I would be happy to provide further information at this stage, and I can assure you that arrangements for management of excavation spoil will be an important topic for discussion with any communities that proceed with the MRWS siting process particularly as sites are identified and assessed.

Yours sincerely,

Alun Ellis
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