Committee on Radioactive Waste Management

CoRWM Document: 2620 FINAL
Meeting summary

1. Date, place and title of meeting attended:

   23 April 2009, Scottish Government Offices, Victoria Quay, Leith, Edinburgh
   Scottish Government Higher Activity Radioactive Waste Policy (SGHAWP) – Radioactive waste inventory on Scottish nuclear sites

2. Who attended for CoRWM:

   Simon Harley

3. Others present:

   Scottish Government: Elizabeth Gray, Neil Murchison, Stuart Hudson, Ewan Young
   British Energy: John Bryers, Gerry Hartley, Roddy Anderson
   Dounreay SRL: Alex Anderson
   HSE: Mick Bacon
   Magnox: Tim Bond, Peter Roach, Jerry Collinson
   NDA: Terry Jones, Graham Jonsson, Iain Laidlaw, Mervin McMinn
   SEPA: Richard McLeod

4. Purpose of attending meeting:

Elizabeth Gray (Scottish Government) requested that a CoRWM member attend this and subsequent SGHAWP meetings as part of the CoRWM Work Programme relating to Scottish policy.

The essential purposes are to:

- Scrutinise Scottish Government processes for developing policy on near-surface, near-site long term storage of Scottish higher activity wastes.
- Provide input on issues arising from the ongoing development of work packages relating to SGHAW in the light of CoRWM activity and recommendations on interim storage, geological disposal and research and development.
- In this particular meeting the key item for consideration was the nature and character of the HAW inventory

5. Main points discussed / information acquired:

5.1. A full set of minutes of the meeting is available from the SGHAWP team (contact: Neil Murchison). The notes provided here concentrate on those aspects that are of immediate concern to CoRWM or need to be noted with respect to progressing policy.

5.2. The NDA presented an overview of the waste inventory (ILW) in Scotland. The figures presented were synthesised from individual site data, using the 2007 national inventory adjusted for known changes in volumes, and applying values for conditioned waste, untreated waste and future arisings. Volumes were given on an 'as stored' basis.

5.3. The categorisation of ILW was presented in terms of 'long lived (LL)' (being ILW that is still radioactive at ILW levels even after 300 years) and 'short lived' (ILW that has decayed to radioactivity levels consistent with LLW by 300 years). This split of the waste was carried out following Scottish Government requests, in order to inform discussion of the amounts that could be considered as 'disposable' at 300 years.

5.4. Previous Scottish Government assumptions on proportions of SL-ILW versus LL-ILW were that the short-lived (SL) category would dominate (a figure of 80% vs 20% was quoted) and so enable much of the ILW to be stored for 300 years and then classed as LLW for its further management.

5.5. The NDA presentation, and supporting discussion involving BE, Magnox and DSRL, clearly demonstrated that something like 86% of all the Scottish ILW inventory (in terms of projected volumes, and using not only the reference treatment strategy but also variants) is Long Lived (LL-ILW). Furthermore, of the 14% that could be classed as SL-ILW, not all could be stored with no intent to retrieve, or disposed of, in a near-surface site even after 300 years because of waste form considerations (e.g. ion exchange resins, hazardous chemicals).

5.6. The three main forms of LL-ILW (23700 m^3) are irradiated core graphite (52%), activated metals (13%), and contaminated metals (12%). Dounreay raffinates constitute 12% of the LL-ILW inventory.

- Discussion of the graphite issue demonstrated that, whilst reference strategies and processes exist for treatment and storage of the graphite and metals, the existing practices were being revisited and looked at in some depth by the NDA in concert with Magnox (and soon with BE) in order to develop new or optimised treatment options and minimise waste volumes and impacts.
- Policies for enabling the export and re-treatment of activated metals for purification and segregation were also reported as being investigated for the future.

5.7. SL-ILW (3500 m^3) is dominated in terms of volume by sleeve graphite (42%), followed by Magnox debris (15%) and desiccant (12%). Treatment and storage options for these were also being considered and investigated on a topic / waste type specific basis (e.g. Magnox fuel debris).

5.8. A very encouraging feature of the discussion of the inventory and the forward look prompted by the NDA presentation was the clear emphasis on investigating and developing treatment options in order to minimise waste volumes and optimise potential storage solutions.

5.9. Disposal of waste was discussed, in two senses:

- Whether it would, at some time in the future and within the horizon of projected 'Institutional Control' be feasible to have a transition from storage on SL-ILW to 'store with no intent to retrieve' (preferably in the same storage facility / site) to 'disposal in the near-surface' (again, preferably at the same site). All of the NDA, SEPA and CoRWM representatives were concerned with management of such a process, given both the timescale involved and (perhaps at this stage more importantly) the lack of a definable end point that would in turn determine or inform design.
- Whether disposal in the 'near surface' but at depths as much as 100 metres below 'surface level' would constitute Geological Disposal and therefore be a non-starter under present policy. Disposal of graphite under the North Sea, in a manner similar to proposed carbon-capture models, was also discussed.
- Further discussion related to the potential for future disposal was wound up as Scottish Government policy dictated that disposal is not an option.

5.10. The final discussion in the meeting focussed on the meanings and definitions of the three key elements of the Scottish Government policy on HAW: 'long term', 'near-surface' and 'near-site'.

- Problems with the open-ended nature of 'long-term' and its impacts on planning and design for storage were highlighted (NDA, SEPA, HSE, CoRWM)
- SEPA and CoRWM raised the issue of what is actually meant by 'near-surface', other than at depths of less than 100 metres, and whether the policy would allow options ranging from surface buildings to excavated or quarried areas, to caverns driven laterally into topography. The Scottish Government HAW team would make this one of its themes for discussion in a workshop / consultation to be held in June 2009.
- Clarification was also sought on what is meant by 'near-site', with the potential implications that actual on-site storage with no transport would have on the number of sites and the potential for damage due to climate change. Again, the Scottish Government HAW team would make this one of its themes for discussion in a workshop / consultation to be held in June 2009.

5.11. The SGHAWP team requested that all parties contribute feedback on their draft Work Packages document (March 2009). SLH noted that CoRWM members would be providing informal feedback.

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6. Actions for CoRWM (what, when, whom):

CoRWM members to provide feedback and comments on the SGHAWP work packages paper, by May 6 2009.

[*this commentary was duly provided, on May 5th, with input from SLH, David Broughton, Brian Clark and John Rennilson*]

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7. This note written by:

Simon Harley (SLH)
May 30, 2009