

Nuclear Free Local Authorities **RADIOACTIVE WASTE POLICY** **Briefing No.57 – Scottish Higher Activity Waste Policy**

Prepared for NFLA member authorities, July 2015

NFLA Response to the Scottish Government's Consultation on an Implementation Strategy for Scotland's Policy on Higher Activity Radioactive Waste

1. Preamble

This NFLA Radioactive Waste Policy Briefing has been developed by the NFLA Scotland Policy Advisor on behalf of the NFLA Scotland Forum. It provides a model response for its members on an important part of Scottish nuclear policy. This response provides the basis of the NFLA's response, and individual NFLA members are encouraged to consider supporting and adapting it for their own response, should they require it. This response fully conforms to existing NFLA policy on radioactive waste management.

The Scottish Government has launched a consultation exercise to seek views on its proposed Implementation Strategy for Scotland's Higher Activity Radioactive Waste (HAW) Policy. The Policy only applies to Intermediate Level Waste, as there is currently no High Level Waste in Scotland. Spent Nuclear Fuel is still not classified as waste and continues to be transported to Sellafield for reprocessing or storage.

Scottish nuclear waste management policy differs from the rest of the UK in that it does not support deep geological 'disposal'. In Scotland long-term management of HAW should be in near surface facilities, which are located as near to the site where it is produced as possible. No definition of "near to the site" is given, but the Strategy presumes "*that waste will be dealt with as close as is practicable to the site where it was produced, thus minimising the need to transport the waste over long distances*". Developers will need to demonstrate how the facilities will be monitored and how waste packages, or waste could be retrieved. The Strategy sets out the key stages for the effective implementation of the 2011 Policy and outlines key actions that are required from the NDA and the Scottish Government during those phases.

The consultation closing date for responses is on the 7th August.

The Consultation Document is available at <http://www.gov.scot/Resource/0046/00464771.pdf>

Responses can be made by e-mail to sghawis@scotland.gsi.gov.uk
or by post to:-

Radioactive Waste and Nuclear Decommissioning Policy
Environmental Quality Division
The Scottish Government
1-D North, Victoria Quay
Edinburgh
EH6 6QQ

2. Introduction – the development of Scottish policy and phases 1 and 2 of its strategy

The development of this draft strategy has been guided by a Scottish Government led Project Board comprising the Nuclear Decommissioning Authority (NDA), waste producers and owners, local government, Scottish Environment Protection Agency (SEPA) and Office for Nuclear

Regulation (ONR). The Committee on Radioactive Waste Management (CoRWM), and representatives of the local Site Stakeholder Groups and the Nuclear Free Local Authorities (NFLA) were observers on the Group and actively participated in discussions.

The draft strategy doesn't take a site-specific approach, but instead explores how best to implement the 2011 policy through a framework. So it makes no direct recommendations for how nuclear waste should be managed under specific circumstances. This is because the Scottish Government views appropriate management solutions as dependent on the site and is trying to avoid being too prescriptive.

The 2011 Policy recognises the need to ensure that storage facilities are capable of managing waste in the long-term. Long-term does not mean indefinite storage but it may mean waste is stored for many decades. The NDA is developing a new baseline for HAW to be measured for its sites in Scotland, which assumes that it will be stored on the site at which it arises for about 300 years.

However, part of the Strategy is to identify which wastes may or may not be suitable for disposal in a future near surface disposal facility. So during the first phase of the Strategy up to 2030 the Scottish Government will work with the NDA, other waste owners, suitable waste management organisations and Regulators to help develop a near surface disposal concept for waste suitable for this management route.

A significant proportion of HAW waste in Scotland will not arise for decades because the current plan is for Magnox and AGR reactors to be left in a safe and quiescent state until at least 2070 when reactor dismantling commences. Hunterston A will enter a care and maintenance phase on 2022 and Chapelcross will do the same in 2028. Hunterston B and Torness are both currently scheduled to close in 2023 and enter the care and maintenance in 2033. All four reactors will still be in the care and maintenance phase until at least 2070.

Dounreay is currently expected to reach its proposed Interim End State in 2029/30, by which point all the Strategy waste is expected to be in two ILW stores on the site. Consequently the first generation of storage facilities for waste arising in the next 10-15 years are likely to follow existing plans with stores being constructed at Dounreay and at each of the Magnox decommissioning sites for the wastes arising at those sites.

So, during Phase 2 (2030 – 2070) all HAW will either be in safe and secure storage or still within the reactors on the power station sites. The Strategy says this provides time to develop plans for the siting and construction of new near surface disposal facilities suitable for the disposal of a significant portion of HAW in Scotland.

3. Phase 3 – 2070 onwards

Under current plans reactor dismantling is expected to take place at the decommissioned sites in Phase 3 when over 60% of the HAW in Scotland is expected to arise. The consultation document says: *“The availability of suitable disposal facilities at this stage will be important to avoid the need to build more stores for the retrieved waste.”* Wastes that are not suitable for near surface disposal will still require ongoing storage. While this is an acceptable part of waste management long term storage does not mean indefinite storage but it may mean waste is stored for many decades.

4. Near Surface Disposal

The Scottish Government has asked the NDA and the Scottish sites to identify which wastes may or may not be suitable for disposal at some future date in near-surface disposal facilities. Any such facilities will need to comply with the comprehensive guidance document *“Near-surface Disposal Facilities on Land for Solid Radioactive Waste: Guidance on Requirements for Authorisation (GRA) produced by the UK Environmental Regulators”*.

Initial results from Magnox and EDF Energy indicate that there may be a range of waste management and near surface disposal opportunities that could be technically suitable for a good

proportion of the HAW streams arising at the Chapelcross, Hunterston A, Hunterston B and Torness sites. A significant future work programme will be required before a fully underpinned near surface disposal solution is deemed viable.

Given the different type of reactors that existed at Dounreay initial results have shown that the majority of the waste arising at the site would not currently be suitable for near surface disposal due to relatively high concentrations of long lived alpha containing waste. According to the Committee on Radioactive Waste Management (CoRWM) by 2025 80% of the conditioned waste at Dounreay will not be suitable for near surface disposal and even after 300 years of surface storage at Dounreay some 62 % of the waste will not be suitable for near surface disposal. (1) Work by the Scottish Government to look at the wastes and the different management options has been initiated and results will be published in due course.

5. NFLA responses to questions on the draft Implementation Strategy

Question 1: Do you have any comments on the aims, scope and objectives of the proposed Implementation Strategy? (Section 2.2)

The Nuclear Free Local Authorities supports a policy whereby:

“Wastes should ideally be managed on-site where produced (or as near as possible to the site) in a facility that allows monitoring and retrieval of the wastes.”

So the organisation is broadly supportive of the Scottish Government’s 2011 Policy.

NFLA fully supports the aim of implementing the 2011 Policy *“in a safe, environmentally acceptable and cost-effective manner”*. NFLA believes that a clear set of environmental principles should be used for the management of nuclear waste. It would have been helpful to elucidate the principles being followed by the Scottish Government, **such as the rejection of 'dilute and disperse' as a form of radioactive waste management (i.e. discharges into the sea or atmosphere) in favour of a policy of 'concentrate and contain' (i.e. safely stored on-site); the principle of waste minimisation and rejection of the unnecessary transport of radioactive and other hazardous wastes.**

NFLA, however, has not been supportive of the use of the “waste hierarchy” to justify transporting waste to other facilities and even other countries in order to carry out so-called “processing”. This is seen as running counter to the policy of rejecting unnecessary transport and counter to the rejection of “dilution and dispersal” as processing generally results in the unnecessary discharge of radioactive substances into the environment. NFLA does, of course, support the idea that wastes should not be unnecessarily created.

NFLA notes that para 1.1.2 states that long-term management of higher activity waste should be in near surface facilities. It should, of course, have added “as near to the site as possible”. The same omission occurs in para 3.1.2.

Question 2: Do you have any comments on establishing the new baseline? (Section 3.3)

NFLA supports the realignment of the baseline inventory of radioactive waste to be compatible with the 2011 policy.

Paragraph 3.3.4 says:

“The NDA is constructing a new baseline for HAW for its sites in Scotland, which assumes that it will be stored on the site at which it arises for a period of approximately 300 years, with stores being maintained, refurbished or replaced as appropriate throughout the storage period.”

Yet Paragraph 3.3.8 says:

“...the Scottish Government asked the NDA and the Scottish sites to consider the waste that will arise at their sites and begin to identify which wastes may or may not be suitable for disposal at some future date in near-surface disposal facilities.”

Some clarity about whether on-site storage or disposal in near-surface facilities is the preferred option would help here. Other operators, as well as the NDA, should also be asked to produce a baseline which assumes storage for 300 years.

NFLA notes that the 2011 policy says that *“long-term storage is still the primary long-term management option”*. (para 2.04.03)

Question 3: Do you agree that the plans to 2030 are compatible with the 2011 Policy? (Section 3.4)

The Scottish Government’s September 2010 Annex to the Environmental Report: Supplementary Assessment of Policy Alternatives highlighted:

“Risks to the general population arising from exposure to radionuclides ... from a deep geological disposal facility”

Which it said would not be significant as long as applicable regulatory regimes are followed. However it said that views on cumulative risk and actual emissions are varied and uncertain at this stage. (para 2.4) It went on to say that (para 2.6) although Geological disposal does not preclude retrieval the level of difficulty and the associated environmental effects could be significant and (para 3.1) *“there are a number of significant environmental challenges associated with deep geological disposal, and therefore possible benefits arising from the draft Policy which favours near surface storage or disposal.”*

NFLA’s view is that the idea that radioactive waste can be “disposed” of should be rejected in favour of a policy of managing radioactive waste. The word “disposed” is used here to mean *“to get rid of something”*. The Scottish Government’s 2011 Policy appears to agree that control should not be relinquished over radioactive waste by placing it in a facility where it cannot be retrieved without significant difficulty should problems arise.

On the other hand, working to develop a near surface “disposal” concept (para 3.4.5) where “disposal” is defined as in Annex A as simply emplacement in a facility with no intention to retrieve and where developers need to demonstrate how the facilities will be monitored and how waste packages, or waste could be retrieved, does not relinquish control and so is compatible with both the 2011 policy, as well as the NFLA policy of continuing to manage waste.

The NFLA view is that under these circumstances a near surface “disposal” facility should be able to maintain zero or near zero discharges of radioactivity into the surrounding environment.

Question 4: Do you have any comments on the plans to take forward the work from 2015? (Section 3.4)

The thermal treatment of waste (mentioned in para 3.4.5) should only be permitted if it can be carried out without discharges of radioactivity into the environment.

As discussed above the NFLA is nervous about the application of the waste hierarchy and the implementation of alternative waste management strategies. This nervousness stems from policies being implemented in England and Wales by the NDA which in the view of NFLA are not compatible with environmental principles. These policies include, for example, the dilution and dispersal of waste into the sea via Magnox Dissolution Plants at, for example, Bradwell and Dungeness; an emphasis placed on “flexibility” in NDA documents indicating an intention to permit, and even encourage, the dilution and dispersal of radioactive contamination throughout the environment, provided that projected dose and risk levels remain within certain parameters, and options proposed for LLW management which could result in increasing public exposures and an additional burden of radiological risk carried by society.

Question 5: Do you have any comments on the proposed key phases and decision points in sections 3.4, 3.5 and 3.6? (Section 3.6)

Both storage and “disposal” of any sort of hazardous waste are sensitive issues, but particularly “disposal”. Section 3.5 needs to emphasise that the word “disposal” in this context is really a variant of storage, but with no intention to retrieve. Because monitoring will be required and retrieval should be relatively easy if monitoring picks up a problem. Because of the connotations of the word “disposal” every effort needs to be made to distinguish what is being proposed from the idea of getting rid of something on a landfill site or emplacing it in a geological disposal facility with no future control over that waste planned.

Question 6: Do you have any comments on siting issues? (Section 3.6)

NFLA supports a policy of managing wastes on-site where produced (or as near as possible to the site). This should be taken to me in the immediate vicinity of existing sites. Such a policy should not allow wastes to be transported, for instance, between Torness and Hunterston to make packaging more convenient.

Question 7: Do you have any comments on the packaging strategy and the Letter of Compliance (LoC) process? (Section 3.7)

NFLA supports a policy of making sure packages remain in a suitable form for long-term management as appropriate.

Question 8: Do you have any comments on monitoring and retrievability? (Paras 4.1.5 - 4.1.13)

Given that near surface “disposal” will be on the basis that waste packages will be monitored and relatively easily retrieved should there be a problem, NFLA would expect there to be virtually no discharges of radioactivity into the surrounding environment.

There will need to be further public discussion when proposals for a disposal facility are put forward. NFLA would want to know whether it is the intention to use a package which can contain the radioactivity inside the package until such time as it had decayed to a safe level. How long would monitoring be expected to continue into the future and how long would it be expected that waste might be retrieved into the future.

Any future proposals for a disposal facility should set out the advantages of such a facility compared with retrieval of the wastes and storage in a replacement store.

Question 9: Do you consider that current plans for information and knowledge exchange are sufficient and if not what would you propose? (Paras 4.1.14 – 4.1.18)

As far as the information here indicates the proposals appear adequate, except there is no mention of a back-up for the information to be stored at Wick should some disaster befall that building.

Question 10: Do you have any views on issues of public and stakeholder engagement? (Paras 4.1.19 – 4.1.28)

The NFLA has been pleased to take part in the process of producing this Implementation Strategy and in earlier consultation exercises connected with the production of the 2011 Policy. In general the organisation has been satisfied with the level of openness and transparency.

However, it has been particularly noticeable over recent years when there have been few proposals for siting new nuclear facilities around the UK that attracting interested stakeholders to consultation meetings can be difficult and when community representatives do attend they are greatly outnumbered by stakeholders from the nuclear industry. NFLA believes it is time to

reconsider how stakeholder consultation exercises concerning complicated scientific issues are carried out. NFLA would initially suggest that two things are considered for the future:

- 1) A focus group type opinion gathering exercise as carried out by CoRWM1 should be considered for the future rather than waiting for “opposition” groups to appoint representatives to send to stakeholder consultations.
- 2) Serious consideration should be given to establishing a fund which can be used by community groups to appoint independent experts to help with their deliberations on waste management issues.

Question 11: Do you have any views on the issues of skills and the supply chain? (Paras 4.1.29 – 4.1.41)

NFLA agrees that there needs to be a strategy to retain and develop skills so that they are still available when decommissioning takes place, and to manage stores of nuclear waste for 300 years or more.

Question 12: Do you have any further comments on the proposed Implementation Strategy?

It would have been useful to gain an insight into the views of the Committee on Radioactive Waste Management concerning the Scottish Waste Policy. It is known, for instance, that they have concerns about the waste at Dounreay which is not suitable for near surface disposal. In looking at the CoRWM website it was seen that a letter to Dounreay sent in November 2014 was not available on the website until 7 months later. This is unacceptable.

The Minutes of the CoRWM Meeting held on 5th November 2014 in London state that:

“Regarding the suitability of conditioned ILW for near surface disposal, The Chair reported that a comprehensive response was given by DSRL. The key points from the presentations made, were that by 2025 80% of the conditioned waste will not be suitable for near surface disposal and even after 300 years of surface storage at Dounreay some 62 % of the waste will still not be suitable for near surface disposal. The Chair felt that this is an issue for the Committee should raise with the Scottish Government. The Committee agreed that this should be on the agenda when the Chair meets the Scottish Minister.”

These minutes didn’t appear on the CoRWM website until 3rd June 2015. And there are no minutes from more recent meetings. The minutes of the previous meeting held in Thurso on 2nd July 2014 stated that:

“The visit [to Dounreay] highlighted the issue that the vast majority of ILW wastes at Dounreay (70% by volume and 99% of the radioactivity) would not be suitable for near surface disposal. The Committee agreed that CoRWM should raise this with Scottish sponsoring Ministers at the next opportunity.”

Again, these minutes did not appear on the website until 3rd June 2015.

The implication of both sets of minutes is that CoRWM think that the ILW waste at Dounreay presents a challenge for the Scottish Waste Policy. However, they do not explain why. It would be instructive to know if a meeting has been held with Scottish Ministers and if so what was said at that meeting.

The Scottish Government should stress to CoRWM that its policy on nuclear waste is based on the fundamental principle of engagement with stakeholders and local communities.

- (1) Letter from Lawrence Williams, CoRWM Chair, to Mark Rouse, Managing Director DSRL, dated 10th November 2014
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/432030/CoRWM_Thank_you_Letter_to_Managing_Director_-_Dounreay_-_10_November_2014.pdf