Nuclear Free Local Authorities RADIOACTIVE WASTE POLICY Briefing No.58 – Welsh radioactive waste policy

Prepared for NFLA member authorities, August 2015

NFLA response to Welsh Government Consultation on Geological Disposal of Higher Activity Wastes: Community Engagement and Implementation Processes

1. Preamble

This NFLA Radioactive Waste Policy Briefing has been developed by the NFLA Secretary on behalf of the NFLA Welsh Forum. It provides a model response for its members on an important part of Welsh Government nuclear policy. This response is available for use by individual NFLA members and it has been submitted to the Welsh Government. This response fully conforms to existing NFLA policy on radioactive waste management.

The Welsh Government has launched a consultation exercise to seek views on its support for UK Government policy for the development of a deep underground radioactive waste policy – often referred to as a 'geological disposal facility'. Over the last 18 months, the Welsh Government has amended its higher activity waste management policy - from initially taking a neutral stance on developing a deep underground repository to now actively supporting it. This consultation also aligns with its formal support for a new nuclear power station at Wylfa.

The consultation focuses on the possibility of a Welsh local authority / 'community' putting itself forward to 'volunteer' to host a deep underground radioactive waste policy. It seeks views on how the Government should assist such a host community. It also seeks wider views on the inventory for such a repository - in the event it is hosted in Wales - and the differentiation between legacy radioactive waste and new build waste.

The consultation closing date for responses is on the 18th August.

The Consultation Document is available at:
http://gov.wales/consultations/environmentandcountryside/geological-disposal-of-higher-activity-radioactive-waste-community-engagement-and-implementation-processes/?lang=en

Responses can be made by e-mail to RPPmailbox@wales.gsi.gov.uk or by post to: People and Environment, Radioactive Waste, Welsh Government, Cathays Park, Cardiff, CF10 3NQ.

2. Previous NFLA Welsh Forum responses to the Government on its policy for the management of higher activity radioactive waste

In responding to this Welsh Government consultation – the third on this subject area in the past year – it is important to reiterate NFLA policy on the management of higher activity waste (HAW).

It should be noted that the NFLA has responded in detail to the two previous Government consultations on whether it should consider changing its policy (1), and then commenting on the policy it was minded to implement (2). Within the second consultation, the Government stated that it was minded to formally support a policy aligned similar to that of the UK Government in advocating the development of a deep underground radioactive repository, usually referred to by both Governments as a 'geological disposal facility' (GDF). Following this consultation, it became the Welsh Government's official policy.

The NFLA made a number of detailed recommendations to the Welsh Government, and it believes the Welsh Government still needs to fully consider them in moving forward with a policy to manage higher activity waste. These include:

- NFLA believes the Government should have a nuclear waste management policy that is always governed by a clear set of environmental principles –
  1) The idea that radioactive waste can be "disposed" off be rejected in favour of radioactive waste managements;
  2) Any process or activity that involves new or additional radioactive discharges into the environment be opposed, as this is potentially harmful to the human and natural environment;
  3) The policy of 'dilute and disperse' as a form of radioactive waste management be rejected in favour of a policy of 'concentrate and contain', storing safely on-site;
  4) The unnecessary transport of radioactive and other hazardous wastes be opposed;
  5) Waste 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.
- The Welsh Government should have reserved its position on 'deep geological disposal' until there is a recognition that the scientific research being carried out to demonstrate a safety case may, in fact, show that producing a robust safety case may not be possible.
- NFLA emphasises this point by noting the considerable uncertainties in making a safety case to bury nuclear waste in a deep repository. It noted that any safety case will rely on computer models of extremely complex, geological, chemical, biological and physical environments. Any slight miscalculation or misunderstanding about how thousands of difference factors are interacting could mean that the rate of leakage turns out to be much faster than expected. If the waste has been irretrievably buried, the problem of radionuclides leaking at a faster rate than expected will not be possible to rectify.
- NFLA asserted that the UK and Welsh Governments have failed to convey that 'geological disposal' remains far from a proven technology.
- 'Disposal' implies getting rid of something, but placing waste in a deep geological facility is simply moving the waste from the surface environment to an underground environment. It does not 'get rid of' the waste. The key to the philosophy of deep geological disposal is that it removes a burden from future generations. However, this would only be the case if radionuclides do not leak at a faster rate than expected. It may, in fact, create a significant burden for future generations if radionuclides leak faster than expected.
- There is no 'safe' dose of radiation, and there are huge uncertainties involved in deciding what dose members of the public actually receive and what the health impact of those doses might be. The methodology used in deciding the dose of an individual is quite complicated, and is derived using computer models. The cumulative uncertainty in dose estimates could be large as recognised by the Committee Examining Radiation Risks of Internal Emitters (CERRIE) in 2004. (3) In other words, even if the deep disposal models are correct, future generations would be committed to a radioactive burden which they might decide is unacceptable, but there would be very little they could do about it if deep disposal goes ahead.
- HAW arisings in Wales, once packaged, will be around half the volume of the HAW arisings in Scotland. A significant proportion of this waste will not arise until Final Site Clearance at the two Welsh reactor sites in 2073 and 2091 in any case. By the time the care and maintenance phase begins at Trawsfynydd in 2016 and Wylfa in 2025 all the early arisings of HAW will have been placed in interim storage, so there is no need to rush decisions and, for instance, start emplacing waste in a deep geological repository with inadequate geological barriers.
- The Welsh Assembly Government should investigate in detail why the UK Government's previous 'Managing Radioactive Waste Safely' (MRWS) process failed. NFLA believes the process failed partly because it ignored most of the recommendations of the 2006 Committee on Radioactive Waste Management (CoRWM). In particular that there should be an intensified programme of research and development into the long-term safety of geological disposal, as well as research on a robust programme of interim storage. There are currently too many uncertainties about how packaged nuclear waste will behave underground.
- The MRWS process also failed because it did not start with a debate about whether the Government should be looking for the most suitable geology for radioactive waste disposal. Experience from Cumbria suggests that the public wants to see the best geological barriers AND engineered barriers, not simply adequate or poor geology with a greater reliance on engineered barriers. At the very least the Welsh Government should withdraw from the MRWS

process until is it made clear that the objective is to look for the best available geology for the job rather than making use of mediocre geology and relying more heavily on engineered barriers.

- The Welsh Government should implement CoRWM's recommendation that a quite separate discussion should be held on the political and ethical issues raised by creating new wastes by building new reactors. In any case spent fuel from the new reactors proposed for Wylfa will need to be stored for up to 100 years before it can be emplaced in a geological disposal facility.
- NFLA recommended that the Welsh Government adopts the Scottish Government policy on HAW: "…*that the long-term management of higher activity radioactive waste should be in near-surface facilities. Facilities should be located as near to the site where the waste is produced as possible. Developers will need to demonstrate how the facilities will be monitored and how waste packages, or waste, could be retrieved*."

This summary of NFLA policy clearly advocates a quite different policy direction from the one the Welsh Government has taken. NFLA note that much of the reasoning for the Government's change of policy relates to its advocacy of nuclear new build at Wylfa. NFLA opposes new nuclear build as being the wrong answer to the government's low carbon energy policy for a variety of financial, ethical, practical, waste, health and safety reasons. It would rather see the Government develop an energy policy that was centred on developing a wide renewable energy mix, a concerted move led by local authorities to improve energy efficiency and energy storage solutions and the promotion of community energy and local authority microgeneration projects.

3. NFLA responses to Specific Consultation Questions

Question 1: Do you agree that the Welsh Government should adopt siting processes and arrangements for engaging with potential volunteer host communities that are compatible with those adopted in England and Northern Ireland providing they are consistent with the needs of Welsh Communities?

No, the Welsh Government should reconsider its HAW policy and adopt a similar policy to that of the Scottish Government of 'near site, near surface' facilities that can be monitored and, if required, waste retrieved. The policy of developing a deep geological facility and engaging with potential volunteer host communities remains flawed. In terms of the deep geological facility policy and any waste management strategy, volunteerism remains critical, as no such development like this should be imposed on a community without its consent. NFLA would agree with the Welsh Government's assertion in one area - that if it feels the agreements agreed to elsewhere are not adequate to protect the needs of Welsh communities it should consider developing additional requirements. As in Scotland, the Welsh planning regime is significantly different than it is in England, for example.

Question 2: Do you agreed that geological disposal should only be taken forward with volunteer communities willing to engage, without prior commitments, in discussion about potentially hosting a GDF?

Whilst opposing development of a 'geological disposal facility' (GDF) in principle, NFLA would not want to see any HAW solution developed without the full and wide support of volunteer host communities. It should be noted that seeking to define a 'community' is a sensitive and complex task. NFLA notes that a separate UK consultation is now taking place seeking views on such matters and believes it is incumbent on all Governments in the UK to take account of the learning points from its conclusions.

NFLA does welcome the Welsh Government's view in the consultation that local authorities will play a pivotal role in the definition of 'community'. The 'single tier' structure of local government gives Welsh Councils a logical role in radioactive waste management policy.

Question 3: Do you agree that communities should have a right of withdrawal from discussions which can be exercised at any point prior to a public test of community support?

Yes. NFLA shares the views of the Nuclear Legacy Advisory Forum (NuLeAF) that unless there is a clear right of withdrawal up to a final test of community support, no community is likely to want to participate in any HAW strategy. Previous UK consultations show a great reluctance from communities and local authorities in general to consider hosting a deep underground radioactive waste repository. That reluctance will not change if there was any threat to the right of withdrawal.

Question 4: Do you agree that there should be a public test of community support after discussions and the provision of information to a potential host community and before construction of a GDF starts?

Yes. Volunteerism will be tarnished if there is not a clear demonstration of wide support from a host community to proceed. Part of the reason the previous MRWS process in Cumbria stalled is that the only test of public opinion was an opinion poll of the local community. This was contradictory in its results and showed a large amount of the local community did not fully understand what such a repository would look like, or the technical or scientific issues at stake.

Question 5: The Welsh Government would welcome constructive proposals for how the public test of community support should be structured in Wales?

The NFLA suggest the Welsh Government consults with the Scottish Government on its quite separate HAW policy, which garners public support in Scotland.

The UK Government has just commenced a 'Call for Evidence' on definition of a community and of a public test of community support. The results of this consultation will be fully considered by the Community Representation Working Group (CRWG), which is advising the UK Government in this area. Members sensitive to NFLA views participate in this group. NFLA believes the Welsh Government should consider its own approach only after the CRWG has produced its final report.

Question 6: Do you consider that potential volunteer host communities should be given access to information such as the national geological screening and information about the science and engineering of geological disposal in advance of engaging in discussions about potentially hosting a GDF?

Yes. One of the major concerns NFLA has with developing a deep underground repository relates to geological factors. Indeed, one of the major reasons the previous MRWS process failed was over concerns of a large amount of the potential host community, led in this case by Cumbria County Council, that the geology in the county would not be suitable for such a facility. The availability of accurate and accessible information on geology, science and engineering is essential in providing confidence to local authorities and potential host communities.

NFLA recommends that the Welsh Government does not just support the involvement of the Learned Societies and the provision of early information on geology, but engages with independent geologists highly critical of the previous failed MRWS process in Cumbria. NFLA also recommends that the Welsh Government engages with the independent group *Nuclear Waste Advisory Associates (NWAA)*, which includes many independently minded experts in the fields of geology, ethics, health and safety.

NFLA remains concerned that the Welsh and UK Government's view is that "*there is no 'best' or 'most suitable' generic type of geology*" and that "*engineered elements can be tailored*" to meet the requirements of different geologies. It was clear to NFLA that, in the West Cumbria Managing Radioactive Waste Safely Partnership Report, the Nuclear Decommission Authority's (NDA) Radioactive Waste Management Directorate (RWMD) (now a separate body known as Radioactive Waste Management Ltd) was only looking for a site which is "*sufficiently good*". RWMD's view was that "*although characterising and demonstrating safety is more challenging for a comparatively complex site* [as sites in West Cumbria would be geologically speaking] *than for a simpler site this does not prevent complex sites from being considered*". (4)

NFLA, has consistently argued for a national geological survey to identify the most geologically suitable potential sites for radioactive waste disposal in England (and Wales) as, indeed, did the vast majority of responders to DECC's consultation exercise on its new MRWS strategy.

In the NFLA's view the Welsh Government should withdraw its support from the current MRWS process until it is made clear that the objective is to look for the best available geology for the job rather than making use of mediocre geology and relying more heavily on engineered barriers.

Question 7: Do you consider that communities in discussion about potentially hosting a GDF should have independent access to expert advice during those discussions when they consider it necessary?

Yes. As noted in our response to Question 6, NFLA believe it is essential to have access to independent advice on such a controversial issue as the management of radioactive waste.

In the same vein, the Welsh Government should consider providing resources to local communities and local groups to ensure they can conduct such independent research from expert advisors. The process to find a solution for the management of radioactive waste in the likes of Sweden and Finland has provided a more equitable process as communities and groups across the spectrum have received funds to allow a full challenge through each part of the policy-making process.

Question 8: Do you agree that the inventory for disposal should be specified in advance of discussions and that any changes should be subject to community agreement before any commitment to hosting a GDF?

Yes. This is an absolute as communities need to know what type of radioactive material would go into a repository close to them, how it will affect the safety case, what the size and depth of the underground repository would be and the full scale of the surface operations. Current UK policy argues that only one underground repository is required, but a clearer understanding of the inventory could determine if that is truly the case.

Question 9: Do you agree that the inventory for disposal should include waste from new nuclear power stations?

No. NFLA is opposed to the development of new nuclear power stations in England and Wales, given a solution to existing radioactive waste streams is still far from being made. Generating new quantities of waste is adding to the environmental burden that future generations will have to deal with.

Existing policy on new nuclear suggests waste from such reactors could stay on site for as long as 160 years. This creates an even greater burden on local communities and increases the risk of health, safety and environmental degradation. The creation of as much as a 16 GW new nuclear capacity – the current policy of the UK Government – is likely to generate enough new radioactive waste to require a second or third deep underground repository.

The Scottish Government's 'near site, near surface' policy should be considered in this vein. NFLA believe research should be undertaken to see the proportions of radioactive waste being earmarked for a deep underground repository that could actually be suitable for near surface facilities, or other environmentally responsible forms of waste treatment.

NFLA continues to believe the UK and Welsh Governments should instead be consulting on strategies for interim storage and the implications new nuclear reactors will have for long term storage, including the need to find appropriate and secure locations for spent fuel stores into the far future. The first step in any new process must be to develop a comprehensive programme of research and development into examining the uncertainties of disposal, research into the concept of retrievability and improving robust interim storage. Technical and scientific uncertainties as well as ethical issues should be examined in a process which is accessible and open to scrutiny.

Question 10: If you do not agree that waste from new nuclear power stations should be included in the inventory for disposal what disposal options would you prefer for waste from new nuclear power stations?

See the response to Question 9.

Question 11: Do you agree that the Government should provide funding to communities to meet the cost of engaging in discussions about potentially hosting a GDF?

Yes. If a process is to be developed with a potential host community it has to be fully funded with opportunity for all interested parties to have access to expert advisers. Over the past 5 years local government has seen substantial and deep financial cuts and it would be irresponsible for any new process to be developed without them, and other interested parties, receiving adequate funds to allow for a meaningful process.

Such funding should be widely distributed and relevant environment non-governmental organisations should also be funded to allow for a thorough consideration of all the issues relating to the developing of a radioactive waste repository.

Question 12: Do you agree that the Government should provide additional investment for communities engaging in discussions about potentially hosting a GDF and further community investment if a community commits to hosting a GDF?

Yes. Though NFLA opposes the development of a deep underground repository, if one goes ahead then host communities need to be recompensed for the inconvenience and potential environmental and health risks from such a development. The development of such a facility could hinder economic development in the areas that host such a repository. This needs to be carefully considered and fully catered for by the Welsh Government.

5. References to points made in responding to the Welsh Government's questions

(1) NFLA response to the Welsh Government's 'Review of Current Policy on the Disposal of Higher Activity Radioactive Waste', June 2014 http://www.nuclearpolicy.info/docs/radwaste/Rad_Waste_Brfg_51_Welsh_radwaste_policy.pdf

(2) NFLA response to the Welsh Government's 'Review on the Management and Disposal of Higher Activity Radioactive Waste', January 2015 http://www.nuclearpolicy.info/docs/radwaste/Rad_Waste_Brfg_53_Welsh_radwaste_policy_statement.pdf

(3) CERRIE (2004) Report of the Committee Examining the Radiation Risks of Internal Emitters.http://www.cerrie.org/

(4) Geological Disposal: RWMD Approach to Issues Management, RWMD March 2012 http://www.nuclearwasteadvisory.co.uk/wp-content/uploads/2013/02/Geological-Disposal-RWMDapproach-to-issues-management-March-2012.pdf