



NFLA Radioactive Waste Policy Briefing Number 77: RWM Site Evaluation consultation

Prepared for NFLA member authorities, March 2019

NFLA response to the RWM Site Evaluation consultation for a deep underground radioactive waste repository

i. Overview of Policy Briefing

This edition of the NFLA Radioactive Waste Policy provides member authorities with the Secretariat's response to the Radioactive Waste Management (RWM) consultation on the factors it will consider in evaluating a site for a deep underground radioactive waste repository. The NFLA Secretary took part in one of the workshops considering this consultation. NFLA remains highly active in the radioactive waste issue across the UK. This response reflects on NFLA policy, which remains sceptical over a deep underground repository, and has a preference for the Scottish Government of 'near site, near surface' monitorable and retrievable stores.

1. NFLA views on a deep underground repository

In providing context to the questions, it is important to state that NFLA remains sceptical and largely opposed to the development of a deep underground radioactive waste repository - which RWM call a 'Geological Disposal Facility' (GDF). This is for a number of serious concerns over the technical, scientific and geological aspects of such a development. Due to the high level of public frustration and opposition that has come to light, particularly in Northern Ireland and Wales, to the UK Government's separate 'expression of interest' to host a GDF, the NFLA have developed a short briefing summarising our concerns in this area. I attach this as Appendix 1. NFLA encourages RWM to consider responding to this document.

2. NFLA general comments about this consultation

It was remiss of RWM to launch this consultation and workshops at the same time as it published videos of generic geological surveys of English regions, Wales and Northern Ireland; and the UK Government wrote to Councils in all such areas to consider 'expressing an interest' in hosting a deep underground radioactive waste repository. Issuing all three processes concurrently has created a considerable amount of local alarm, confusion, concern, anger and frustration.

It would seem partially as a result of such frustration, the NFLA notes that the two planned workshops in Wales were cancelled in favour of a short 'webinar'. NFLA Welsh member councillors and a number of Welsh non- governmental organisations (NGOs) were therefore prevented from actively participating in this consultation process and understanding more from RWM of the areas being consulted upon. That does not seem to the NFLA to be developing the levels of openness, fairness and transparency that this process is supposed to be delivering, and it could be argued it is anti-democratic in allowing English Councils greater scrutiny of the consultation than their Welsh counterparts.

Furthermore, NFLA notes that RWM did not hold any consultation events in Northern Ireland, despite it being theoretically a possible location for a GDF, and at which RWM did make public an outline geological assessment on its website.

It is no surprise to NFLA that Newry, Mourne and Down District Council, Fermanagh and Omagh District Council, Armagh, Banbridge and Craigavon District Council, Swansea City Council, Ceredigion County Council, Neath Port Talbot Council and Powys County Council all passed resolutions of concern over expressing an interest and now actively oppose such a development. NFLA shares their frustration.

NFLA also asks RWM to take note of the public comments made by Allerdale councillors about this process: “On the basis of our Managing Radioactive Waste Safely experience alone, the argument that all communities are equal falls down and yet, six years later, you have launched a new process that pretends the UK is starting with a blank piece of paper. We believe that what is needed is a more strategic discussion around all the nuclear related challenges the UK is facing, how those challenges might impact on Sellafield and the Low Level Waste Repository and how we might secure the maximum benefit for this community going forward. We remain disappointed, not to mention confused, that such a discussion is not supported by those responsible within Government and the nuclear industry.”

(Carlisle News & Star, 25th March 2019

<https://www.newsandstar.co.uk/news/17525179.councillors-call-for-talks-on-nuclear-waste-store/>)

This comment raises concerns for NFLA that the current process will make the same mistakes as the previous attempts at developing a deep underground repository, and that any final resolution to this intractable problem may fail again. NFLA are also concerned that the ‘one size fits all’ process of just looking for the GDF solution without considering any viable alternatives – particularly the Scottish Government’s policy and the wider issues of longer-term interim storage - is mistaken. In the NFLA’s view this is a missed opportunity of RWM, the UK and Welsh Governments to widen out the debate to consider other options Councils may be more amenable to.

Consultation Question 1

Are there any other sources of High level Requirements, other than the Siting Process Requirements and the Legal Requirements identified, that you think should be reflected in the Site Evaluation document, and why?

No.

Question 2

Do you agree with the Siting Factors we have identified? Are there any other Siting Factors that should be included and why?

One area of omission for the NFLA is the transportation issues that would come into play if the final site selected is a considerable distance from where most of the waste is situated – Sellafield. If a chosen site is deep in the south of England or in Wales there are real and significant issues of concern for all Councils where waste is transported through. The site evaluation process currently focuses on the small area around the site and NFLA would like to see not just neighbouring Councils given some say, but those in the wider region. In the event of the site being considerable distance from Sellafield there will be real concern raised from Councils on major road and rail routes, and from coastal Councils if the material is transported by sea.

NFLA is concerned the transportation of high activity waste is not being adequately considered in the Siting Factors, and asks for some consideration of this matter by RWM.

To reiterate this point, NFLA notes that the most recent report of the Office for Nuclear Regulation has indicated over 1000 accidents/ events involving radioactive material in transit within, to or from the UK since 1958.

(Radiological Consequences Resulting from Accidents and Incidents Involving the Transport of Radioactive Materials in the UK – 2011 Review; <http://www.onr.org.uk/transport/hpa-crce-037.pdf>)

Any creation of a GDF that could involve a considerable level of transport has to consider the potential impacts to any community in the event of an accident involving such a transport.

NFLA also believes there should be consideration of nuclear security issues as a siting factor. NFLA refers RWM to its detailed report on nuclear security developed for it by Dr David Lowry and the NFLA Secretariat –

http://www.nuclearpolicy.info/wp/wp-content/uploads/2016/05/A258_NB145_Nuclear_Security_concerns.pdf

This report outlines a variety of nuclear security scenarios relevant to the GDF siting factors process including:

- Risks from an attack on a nuclear material transport.
- International assessments of risk to transportation casks.
- UK issues around the transportation of radioactive materials such as the ongoing transport of 'exotic' materials from Dounreay to Sellafield.

NFLA consider it a sensible consideration for RWM to bring into the Site Evaluation process.

NFLA also point out to RWM the important summary of conclusions made by the Communities Working Representation Group:

- Flexibility needs to be given to the structures and processes which allow the 'community' to change and be refined during the process, especially as potential host sites and then the eventual host site is identified.
- There is a range of views and perspectives that need to be taken into account, from local, emotional place-based perspectives, to wider economic resource-based ones.
- The community needs to identify these perspectives itself, or be a key part of the process that identifies them.
- There cannot be a 'single definition of 'community'. Instead, definitions of 'community' will include those who are 'directly impacted' and those with a 'wider interest' in the process (the roles and responsibilities will be described in the Community Representation section 7), as well as the 'interests that will be consulted under the Nationally Significant Infrastructure Planning (NSIP) process'. It is suggested that the following terms could be used to help understand these different.

There may thus be utility in considering in the Siting Factors consideration on the type of communities directly and indirectly affected by a GDF siting process.

A final critical issue that should be included in the Siting Factors is geology. The furore noted in Wales and Northern Ireland as a result of the videos put on the RWM website - which indicated the parts of each region / nation which could have potentially suitable geology – created a great level of unease and anger which has inevitably led many Councils to already pull out of any interest in this process. RWM should have considered carefully such matters beforehand, and be fully aware that geology will be one of the major factors for the public in the siting of a deep underground repository.

In its response to the UK and Welsh Government's consultations on geology, the NFLA has consistently called for a national debate about whether the objective is to look for the best available geology for the job or whether to use mediocre geology and rely more heavily on engineered barriers. The NFLA contends that this should have taken place before embarking on a National Geological Screening Exercise.

[http://nuclearpolicy.info/docs/radwaste/Rad Waste Brfg 60 RWM Geological Screening Proce ss.pdf](http://nuclearpolicy.info/docs/radwaste/Rad_Waste_Brfg_60_RWM_Geological_Screening_Proc_ss.pdf)

In this context, and given that every previous attempt to find a site for a GDF has often foundered on concerns over geology, it needs to be added as a Siting Factor for consideration.

Question 3

Do you agree with the Evaluation Considerations we have identified? Are there any other Evaluation Considerations that should be included and why?

NFLA agrees with the LGA Nuclear Legacy Advisory Forum that more information should be provided to allow communities to understand what issues will be considered under each Siting Factor.

In the NFLA's view, additional issues that should be included are:

- **Community** – The GDF process is based on community consent and volunteerism. NFLA agree with NuLEAF that the local political environment should be considered as a factor. NFLA would go further and consider that the regional political environment also needs to be considered given the concerns over transportation do exist. NFLA also remain concerned about the dilution of the duty by the UK Government in not allowing County Councils the ability to withdraw from the process. RWM need to consider how the delicate local political issues in such relationships between County and Borough / District Councils could be negatively affected in this process, leaving to a considerable amount of potential and long-term political opposition to the development, if a profound difference of opinion takes place.

NFLA also note that in the 'Community' evaluation there should be considerations of how proposals for a site will affect sustainable development and public health. This is noteworthy given the **Well-being of Future Generations (Wales) Act**. In the NFLA's view there remains considerable amounts of technical and scientific uncertainty to a GDF. Such a development does not just affect the local community at this juncture, but for many generations hence. RWM needs to take account of the ongoing concerns of groups like the NFLA and the Nuclear Waste Advisory Associates who remain particularly sceptical of the development due to longer-term environmental and public health concerns.

- **Environmental** - A GDF remains a controversial development that has potentially profound environmental impacts. NFLA, like many other groups, is keen for the concept of retrievability to remain a possibility at any approved site, should long-term environmental degradation of such a site occur impacting on future generations. This concept is advocated by a large number of groups, even those who may accept and go into a siting process. NFLA also shares the concerns of the National Parks, like the Lake District, over the potential impacts on such outstanding areas of natural beauty should a GDF be constructed close by to a national park.
- **Engineering** – NFLA agrees with NuLEAF that any plans for a GDF should be guided throughout the siting process by regular reviews to determine whether geological disposal remains the optimal solution to the long-term management of the waste inventory. As NFLA have consistently noted, it remains sceptical over such a development, and believes that alternative options should remain available for consideration.
- **Ethical** - For NFLA, the building of such a complicated and controversial development remains above all an ethical question. Previous failures to develop such a site have come not just from political failure but from a misunderstanding of the ethical concerns that comes from dumping large amounts of highly radioactive waste deep underground. RWM should not just have scientific and technical staff considering this development, but should bring in social scientists to look at such matters. One of the reasons why the CORWM 1 reports were well received, compared to subsequent reports, was that social scientists made up a component of the committee, and clear caveats were added to its original reports, which were then largely ignored by the UK Government and the nuclear industry. There will inevitably be a wide series of views that will emerge when communities express an interest, and the ethical concerns in this debate need to be captured and acted upon by RWM.

Question 4

Is there anything else that you think we should consider in our site evaluations and why?

NFLA have a number of additional comments to make here:

- The NFLA continue to have serious concerns that communities which volunteer are potentially trapped within the process for up to 20 years. RWM needs to consider how its processes can be flexible to deal with clear negative changes in local opinion as the site evaluation process

gets more detailed. There is real concern for NFLA that any volunteer community could get trapped in the process as site evaluation develops.

- Section 6 identifies the need for effective oversight and scrutiny of the site evaluation process. NFLA recommend that independent figures are brought in to assist with this function that can allow respect of the differing concerns from those who may support or oppose the local site evaluation process.
- NFLA share NuLEAF's comments that more information should be provided as to whether any weighting will be given to each of the evaluation considerations in assessing the relative merits of different local sites. For example, NuLEAF note that it is not clear how much importance will be given to cost implications relative to environmental impacts. It is also not clear what weighting will be given to assessing various issues within an appraisal of a single evaluation consideration – for example within Environment what significance will be given to climate considerations relative to noise or transport? NFLA believe this is important to provide further clarification.

NFLA Policy Briefing on the current radioactive waste policy process

See - <http://www.nuclearpolicy.info/wp/wp-content/uploads/2019/02/Rad-Waste-Brfg-76-Deep-waste-repository-factsheet.pdf>

1. Over 40 years seeking a radioactive waste solution

In December 2018 the Government [launched](#) its [6th attempt](#) to find a home for extremely dangerous, higher level radioactive waste. The Government organisation, [Radioactive Waste Management \(RWM\)](#) says it is searching for a “willing” community with a suitable site to host a Geological Disposal Facility (GDF). The process of finding a site will take 15 to 20 years. Then, if a test of public support is positive and permission is received from the independent regulators construction will begin.

2. NFLA’s core concerns about the current policy process

- The plans weaken the power of county councils - making it harder for them to prevent a community from agreeing to host the GDF. In areas with two tiers of local government the plans [prevent any one council](#) from vetoing discussions on hosting the dump.
- The final decision to go-ahead with building a GDF will be subject to a “*test of public support*”, but the right to a say could be restricted to a small area around the proposed site.
- Communities nearby or on the transport routes for waste won’t be given a say.
- The plans could also mean that a local authority is locked into the process for up to 20 years – unable to tackle any associated planning blight.
- The government is offering communities up to £1 million a year for about five years to take part in discussions, rising to £2.5 million a year for up to 15 years while test boreholes are drilled. RWM is hoping that a GDF will be ready to receive waste in the 2040s. The government’s history of underfunding of infrastructure in peripheral areas, led to promises of substantial community benefits being treated with scepticism in Cumbria [and has been cited as one of the reasons](#) why Cumbria County Council withdrew from the last process.

3. NFLA’s core concerns about ‘Deep Disposal’

- Deep disposal of nuclear waste relies on the concept of multiple barriers: - the waste containers themselves; the grout surrounding the containers; the surrounding rocks; and dispersal of any radioactivity penetrating the above barriers away from sources of water.
- No matter how effective the barriers some of the radioactivity will eventually reach the surface. RWM will have to produce a [safety case](#) which demonstrates why they think the radiation doses to people living on the surface will be at acceptable levels into the far future. One geologist likened this to predicting the weather on one particular day in hundreds or thousands of years’ time.
- Supporters of deep disposal argue that it puts dangerous waste out of harm’s way, removing a potential target for terrorist attack, and avoid leaving a problem of our making for future generations to deal with.
- Opponents argue that the rate at which radioactivity would leak from a GDF is poorly predictable, and likely to remain so for an indefinite period, despite many decades of expensive research. Rather than solving a problem for future generations it could be leaving them a legacy of a nuclear waste dump gradually releasing radioactivity into the environment, and cutting off their options for deciding how to deal with this waste.
- Once you start to delve into the complicated science which needs to be resolved in order to produce a safety case for a GDF, it starts to become clear how things could easily go wrong. The interaction of groundwater chemistry, the behaviour of radionuclides, microbes and geology can be extremely complex. For instance a disposal facility will produce a large quantity of hydrogen gas which might need a pathway to be released to avoid a build-up of pressure. Such a release pathway would also provide an escape route for radionuclides. (See [Nuclear Waste Advisory Associates Issues Register](#)) Another example is the scientific debate over how fast [copper waste canisters](#) are likely to corrode.

- After a public inquiry which ended in 1996, the then Secretary of State for the Environment, John Gummer, told Nirex, the forerunner of RWM he was “... *concerned about the scientific uncertainties and technical deficiencies in the proposals presented [and] your company does not understand the regional hydrogeological system well enough.*”

4. **NFLA’s core concerns about ‘Geology’**

- Some GDF supporters want to see a national (UK) geological survey which would establish the areas which are most geologically suitable. In other words putting geology and safety first, instead of waiting for a local authority to volunteer. The trouble is the area with the best geology might not be a willing host.
- [Cumbria Trust](#) says one of the clearest lessons from the 1996 Inquiry is that complex geology makes it difficult or impossible to model groundwater flow, even over modest distances. Yet the screening report which RWM has [now published](#), ignores this expensive lesson. Major faults are mapped, and acknowledged, but the significance of simple geology in site characterisation is not well communicated.

5. **Why is the UK planning to build new reactors before it knows what to do with the waste?**

- After three years of deliberation, the Committee on Radioactive Waste Management (CoRWM) decided that geological disposal is the best available approach for the long-term management of higher level waste, but lots of caveats and important recommendations were ignored by the Government. It specifically said it did not want its recommendations seized upon as providing a green light to build new nuclear reactors which raise different political and ethical issues when compared with wastes which already exist. In other words it might be morally defensible to look for the ‘least-worst option’ to bury dangerous waste already created, but we really shouldn’t be creating any more.
- The spent fuel from new reactors will be much more radioactive than spent fuel from existing reactors and require cooling for a period of about 100 years before it can be emplaced in a repository underground which could mean spent fuel stored on new reactor sites for up to 160 years (i.e. 100 years after the reactor closes).
- Just one new nuclear station, Hinkley Point C, will produce about 80% of the total radioactivity already created. If all the proposed new nuclear reactors get built this will at least quadruple the amount of radioactive waste we have to deal with. (See Table 5 in this [NDA report](#))

6. **Alternatives to ‘deep disposal’**

- The Scottish Government is opposed to deep geological disposal and has proposed “near surface, near site storage facilities so that waste is monitorable and retrievable and the need for transporting it over long distances is minimal.
- Opponents of deep disposal favour storage on the surface in dry above-ground, attack-resistant, stores where it can be monitored and retrieved and repackaged if necessary. This would allow time for further research and give future generations a choice about how our nuclear legacy is managed.