

Business, Energy and Industrial Strategy Committee inquiry into Draft National Policy Statement for Geological Disposal Infrastructure

Submission from Blackwater Against New Nuclear Group

BANNG Paper No. 37

Preamble – Context for this submission

The Blackwater Against New Nuclear Group (BANNG) has a long track record of responding to consultations on various matters of radioactive waste management over the past ten years. In particular we have commented on the desk-based identification and assessment of potential candidate sites for geological disposal (BANNG Paper 13, 2011); geological disposal in West Cumbria (BANNG Paper 15, 2012); radioactive waste management and new build (BANNG Paper 17, 2012); call for evidence on MRWS (BANNG Paper 19, 2013); review of the siting process for a GDF (BANNG Paper 23, 2013); implementing geological disposal, working with communities (BANNG Paper 27, 2015). We have also responded to the most recent consultations on the GDF: *Working with Communities* (BANNG Paper 35); and *Draft NPS for Geological Disposal Infrastructure* (BANNG Paper 36). Each of these rehearses BANNG's support for the voluntary process, partnership and community support while emphasising the need to exclude new build to ensure a process that is workable and potentially viable in terms of community willingness to participate. These responses may be found on our website, banng.info.

It should be noted that BANNG's Chair, Professor Andrew Blowers OBE has been involved in policy development for radioactive wastes over several decades as a member of the Radioactive Waste Management Advisory Committee (RWMAC, 1991- 2004), a non-executive director of Nirex and a member of the first Committee on Radioactive Waste Management (CoRWM, 2003-07). While with CoRWM he was chiefly responsible for drafting the policy recommendations that were adopted by Government. He led committee groups on political, social and ethical issues and chaired the Implementation Committee which set out the policies of voluntarism, participation and partnership which are the core elements of current policy as adumbrated in *Working With Communities*. His academic and political experience in radioactive waste management policy is expressed in his recent book, *The Legacy of Nuclear Power* (Routledge, 2017). Professor Blowers was a member of the Community Representation Working Group which provided advice during the development and preparation of *Working With Communities*. He is also Co-Chair of the BEIS/NGO Nuclear Forum which has considered radioactive waste management on many occasions.

On the question of new build wastes BANNG's position is that it would be perverse to compound the problem of finding and developing a site for a GDF by a new build programme that will result in vastly increased radioactivity and an unknowable volume of spent fuel and other highly radioactive wastes which will have to be stored indefinitely at

vulnerable sites scattered around our coasts. A new-build programme would create an unmanageable and intolerable burden on communities into the far future.

For BANNG the key issues that frame the development of geological disposal infrastructure are the following:

1. The issue of national priorities in radioactive waste management and BANNG's view that the main priority must be safe management of the existing legacy with the search for a suitable site for a GDF a less pressing concern.
2. The issue that the NPS should be restricted to legacy wastes for which the total inventory is knowable and not for new build wastes for which the inventory is unknowable and for which the time-scale for implementation stretches far into the future.
3. The issue of the intergenerational equity arising from the long time-scales and the uncertainties not only of physical conditions but also of societal stability and institutional continuity in the far future.
4. The issue of the need for adequate time for decision making. The process of designing and finding a suitable and acceptable location for a GDF is necessarily a long, possibly intergenerational, process and must not be hurried, and certainly is not a process that should be accelerated in an effort to deliver a new build programme.

In this response we focus on two themes involved in the development of a GDF. One is the implication of the long time-scales extending into the next century and beyond; the other is the impact of a new build programme on the scale and inventory of radioactive wastes. It is our view that geological disposal will not be an effective means of managing these wastes in the long-term which will be stored at reactor sites until well into the next century, possibly indefinitely. Consequently, storage at reactor sites of new build wastes, especially spent fuel, is an issue that must be considered together with a potential (but uncertain) GDF for legacy wastes.

Response to Questions

Are the draft National Policy Statement's Assessment Principles and Impacts, including the requirement to take the Environmental Impact Assessment and the Habitats Regulations Assessment into account, adequate and comprehensive enough to inform development consent decisions. If not how could they be improved?

Considerations of time-scales

Our response here is that the Principles and Impacts are adequate and comprehensive so far as they go. There are two qualifications to this. One is that while they are applicable to the near-term it is difficult to apply them in practice

over the very long timescales in conditions of increasing uncertainty. We note, the consultation on *Working with Communities* states that 'Finding a suitable location for a geological disposal facility is a complex, long-term process that will take many years' (3.26). *The draft NPS for Geological Disposal Infrastructure* indicates an estimated operational lifetime of approximately 150 years (NPS, 1.5.2). Depending on how long it takes to find a suitable site, on this basis a GDF would not reach a point of potential closure until towards the end of the next century, and possibly beyond.

We draw two conclusions from the long time-scales involved. One is that the process cannot and should not be hurried. It will be a long time before a site is identified and longer still before development commences. Yet the Government insists that 'Geological disposal infrastructure is a necessary enabler for new nuclear power' (4.6.2) but concedes that it will need to be satisfied that 'effective arrangements exist or will exist to manage and dispose of the waste' from new build nuclear power stations' (*Ibid*). The uncertainties are so considerable that it would not be prudent to embark on a programme of new build on the grounds that effective arrangements for the management of the wastes are unlikely to exist to deal with unknowable volumes and radioactivity arising from the wastes of a new build programme.

Our second conclusion relates to the need to take ample time to ensure a safe solution and an acceptable site. It requires a site where the geology provides adequate containment and the community is willing to host a facility. The timescales extend down the generations and, in terms of sustainability and intergenerational equity, the risks to future environments and human welfare must be minimised. At such timescales assessment principles and impacts become increasingly difficult to apply in changing environmental and societal circumstances. While legacy wastes are committed and must be managed, new build wastes are avoidable and this is a major, if not decisive, constraint on the new build programme.

Consideration of alternatives

The draft NPS states that 'The supporting Appraisal of Sustainability has shown that there are no reasonable alternatives at a strategic level to meeting the need for geological disposal'. It is claimed that, 'some form of geological disposal facility will remain necessary' (2.1.6). BANNG would dispute this. We cannot know whether a GDF will ever materialise or alternative forms of management be developed. What we do know is that, for the foreseeable future, storage will be the method for managing wastes. In other words, for the present time, storage has to be regarded as the alternative.

The recommendations of the first CoRWM Committee recognised that while disposal was the best available approach, in the present state of knowledge, it was not the only approach. It recommended a robust programme of interim storage and commitment to safe and secure management against the risk of delay or failure of the repository programme. In addition it urged flexibility in policy to leave open the

possibility of other options that might emerge as practical alternatives to disposal. Given the extraordinarily long timescales involved in the management of radioactive wastes, storage has to be regarded, in the present state of knowledge, as a practical, indeed, viable alternative.

Assessment Principles and Impacts of New Build

BANNG considers the Assessment Principles and Impacts should only apply to legacy wastes and that wastes from a putative new build programme must be excluded from consideration in the NPS for Geological Disposal Infrastructure. We concur with the CoRWM statement that, 'new build wastes would extend the timescales for implementation, possibly for very long but essentially unknowable future periods. Further, the political and ethical issues raised by the creation of more wastes are quite different from those relating to committed – and, therefore, unavoidable – wastes' (CoRWM, 2006, p. 15).

There are questions over the inventory arising for legacy wastes, let alone new build. It is not yet clear whether plutonium will be declared a waste though the size of the stockpile at circa 140 tonnes suggests that a large proportion will be. It is not even clear whether spent fuel will be destined for disposal since the possibility (however unlikely) of a new venture into reprocessing prevents its definition as a waste.

Furthermore, we are concerned with the statement that 'despite some differences in characteristics, waste and spent fuel from new nuclear power stations would not raise such different technical issues compared with new nuclear waste from legacy programmes as to require a different technical solution' (2.1.9). Again, we ask, how can we know? When the technical solution of dealing with legacy wastes is not yet developed and verified, it is unwise to assume that a repository can deal with wastes in a form that has yet to be specified. In any case, the scale of the new build programme, if it develops, is unknown and, consequently the inventory is unknowable.

Impacts of New Build Wastes

Regardless of whether a GDF will materialise to deal with legacy wastes, it is improbable that it will be available for wastes from new build. In any case, wastes arising from new build will have to be stored on site for up to fifty years beyond closure of the power station, certainly until towards the end of the next century. In other words, storage is the only foreseeable solution for new build wastes. In effect that means storage on the sites that have been identified for new build, that is, the eight sites originally identified under the strategic siting assessment and confirmed in the NPS for Nuclear Energy, EN-6. It is assumed that seven of the sites (Hinkley Point C having already achieved planning consent), however unsuitable, are highly likely to be redesignated under the current review of the NPS. In BANNG's view redesignation of these sites, especially for the purpose of long-term, indefinite

storage of highly active wastes, is unjustifiable and unethical in environmental and social terms. We have provided reasoning for our opposition to designation of these sites in our original response on strategic siting in 2008 (BANNG Paper No. 1) and in our response to the recent proposals for redesignation (BANNG Paper No. 34) which are available on our website.

During the past decade concerns about the vulnerability of these coastal sites has increased. Most of the sites, and Bradwell in particular, will be subject to the impacts of climate change, sea level rise, coastal processes and flooding. Data on sea level and climatic change have tended to point towards an increasing risk. At the same time it has been realised that nuclear activity, including decommissioning and waste management, will be present on these sites well into the next century and possibly indefinitely. The combination of deteriorating coasts and lengthening time-scales severely strains the credibility of claims of mitigation and management. Indeed, it would be fair to say that the legacy remaining on these sites in the far future will be unmanageable.

In terms of fairness to both present and future generations, we contend that the designation of sites for the long-term storage of nuclear wastes should be subject to a process similar to that proposed for the siting of the GDF. In other words, principles of voluntarism, partnership and compensation should be applied. It is manifestly unfair and unethical simply to impose what is, in effect, a nuclear waste long-term storage site on communities which have neither volunteered nor participated in a siting process. It has to be remembered that new build is not simply a matter of building new reactors but carries with it the burden of waste management into the far and unknowable future on sites that are both unsuitable and unacceptable and for which there has been effectively no consultation.

BANNG believes that designation of sites for new build should be a separate process. This should require separate and distinctive processes of justification, regulation and planning. Our position is that new build is not necessary and should be abandoned. However, if the policy persists then we do not consider a putative GDF can be relied upon to deal with the accumulation of wastes. Neither can it be assumed that wastes should be stored on the site of new reactors. Rather, a separate siting process must be undertaken to identify sites, if any, where management of highly active wastes can be managed in the long term.

Question: Should any other Assessment Principle or Impact, for example local community consent, be added to the list and, if so, why?

Community consent

We take it as axiomatic that community consent is required both for the Assessment Principles that are applied and for the consequent impacts. We are fully supportive of the principle of voluntarism and partnership put forward in the document on *Working With Communities*. We consider a process of deliberative engagement

should be adopted for any proposals which may have deleterious impacts on environments and habitats or on the health and wellbeing of communities. For example, the impacts of a power station or a waste store should be subject to extensive public and stakeholder engagement.

Imperative Reasons of Overriding Public Interest (IROPI)

There is concern over the need for IROPI which, it appears, may be applied in some cases where a development might have an adverse effect on the integrity of a European site, and presumably in other cases. Although the use of IROPI is presented as extremely restricted (see paragraph 4.3.5) the Secretary of State retains the right to apply IROPI if he considers it to be in the public interest. Its purpose seems to be to allow for nuclear development even where a site fails on the application of the siting criteria. This privileges the claimed need for nuclear power over all other considerations. The criteria are, in our view, sufficiently restrictive and should be quite sufficient without the need for an all encompassing fail-safe to facilitate nuclear development on an unacceptable site. In any event we have argued that nuclear energy is no longer needed, therefore, it is *not* in the national interest to override all other considerations. Indeed, it may be claimed that there is an overriding national interest in the protection and preservation of habitats and environments. Therefore, we request that IROPI be dropped altogether as a potential condition for granting development consent.

Question: What priority should each of the Assessment Principles and Impacts have or should equal weight be given to each of them?

Climate Change Adaptation

We consider high priority should be given to Climate Change Adaptation which is presented in part 4.6 of the draft NPS. As stated earlier we simply do not accept the argument of 4.6.2 that nuclear power is integral to the need for low carbon energy nor do we accept that effective arrangements, i.e. a GDF, will exist to manage and dispose of the wastes from a new nuclear programme.

A significant increase in global warming and consequent rise in sea levels is inevitable, probably towards the higher end of the 2°C-5°C range by the end of the century. The document urges developers to take a risk-averse approach using the very worst case scenarios (4.6.10). As the document indicates such assessment will indicate, 'increased risk of flooding, drought, heatwaves, intense rainfall events, as well as rising sea levels' (4.6.4). In particular, in coastal areas, efforts at protecting against flood risk may result in consequential impacts on coastal change' (4.6.6).

Such changes are likely to occur by 2100 yet the GDF is, according to the latest view, unlikely to be ready for closure until the middle of the next century at the earliest. By that time conditions could be much worse especially in inland areas prone to

flooding as well as coastal areas threatened by sea level rise. This surely would rule out such locations for a GDF.

This pessimistic picture also applies to long term storage of wastes at coastal locations. We have argued, using available evidence, that wastes will have to be stored on coastal sites until well into the next century, possibly indefinitely. It is not sufficient to rely on the vanishing possibility of a GDF to take these wastes before conditions deteriorate at the sites and the wastes become literally unmanageable.

It is imperative that policy for a GDF also takes into account the necessity of long-term storage at new build sites, most of them on the coast. Given the likely scenarios of climate change the storage of wastes at vulnerable sites for a period exceeding a hundred years is a reckless gamble imposing an intolerable burden of risk, cost and effort on communities in the far future where social and physical conditions are unknowable.

Summing up

In chapter 3 the document is at pains to justify the Government's nuclear policy and thereby the need for a repository to be available as soon as possible. We have pointed out that, even at its most accelerated, the process for finding and developing a site will be intergenerational and that interim storage is effectively the solution for the foreseeable future. The document states that interim storage is not a 'permanent solution'. This poses the question, 'what is permanent'? Certainly interim storage is likely to be the means for management for the foreseeable future, the period of the next century and more. Disposal is not yet proven and an acceptable site is yet to be found and, even so, it cannot be regarded as a permanent solution because it does not yet exist, despite the claim that it 'will exist'.

It is claimed that indefinite storage will be a burden on the future. That is undeniable but it behoves the present generation to ensure the burden is mitigated as far as possible. Creating more wastes will increase the size and the timescale of the burden. It is this that is unethical.

New nuclear power is not a given, nor is it necessary. The wastes it will create are an unethical imposition on future generations who may have to find ways of dealing with the problem of wastes stored in vulnerable locations in the worsening conditions of climate change. A repository offers no comfort as a solution to the problem of managing our radioactive waste safely for the foreseeable future.

Blackwater Against New Nuclear Group

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