

Comment on the Review of the Siting Process for a Geological Disposal Facility (URN13D/250)
(North Wales Workshop 19/11/2013)

Richard Garnsey

With due respect for the hard work of all the contributors to this review it appears to be an exercise in Government procrastination. DECC failed in their duty by not vigorously challenging Cumbria Council's right to overriding the wishes of the truly local communities on this national infrastructure project to investigate the possibility of a geological disposal facility (GDF). It advocates up to 15 years more expenditure of public money without making significant progress towards establishing a site for geological disposal of nuclear waste. Why not get on with the job?

What is even more of a failure of Government is to have spent millions on investigating geological disposal but still not know whether or not Sellafield is a "reasonable prospect" for a GDF.

"The UK Government continues to favour an approach based on voluntarism, working in partnership with communities that may ultimately host a facility." The lesson from the last invitation to host a Geological Disposal Facility (GDF) is that only communities located adjacent to nuclear facilities are likely to volunteer. This is not surprising as they are familiar with the risks and benefits. People who have lived and worked in the vicinity of these sites for decades are not nervous of the site's activities and recognise the economic, social and employment benefits. Some also recognise that they have to live adjacent to nuclear waste anyway and that putting it underground might well reduce any risk still further. Resources should therefore be directed at just these sites.

How many GDFs are needed in the UK? Would one beneath Sellafield be enough? Could a GDF large enough to take all the waste that would otherwise be stored 'near surface' at Sellafield be located with an entrance within, say, 20km (*possible evacuation zone in the event of a major uncontrolled release of radioactivity*) of the centre of the Sellafield site, or is there a "reasonable prospect" of this? The vast majority of waste ready for disposal is at Sellafield and the local community have volunteered so if a GDF could be built beneath Sellafield why not get on with it? Seek to overturn the Cumbrian Council's 'three green lights' agreement and initiate underground investigations to confirm suitability. If Sellafield and district is geologically unsuitable then say so. If more than one is needed then the implications for other nuclear sites needs to be explained.

Local communities do not know, with any clarity, what arrangements have been made at a given site for above ground storage of high and intermediate level waste and for how long interim spent fuel stores are likely to operate. The situation at Sellafield is reasonably clear. There will be high and intermediate level waste stored indefinitely, that is, for many hundreds even thousands of years. The situation for nuclear power stations has not been made so clear. For the Magnox stations the fuel has to be treated when the station is closed so that the spent fuel, which is the high level waste, is removed and taken to Sellafield. Much of the intermediate level waste can also be removed to leave a relatively benign site like, for example, Trawsfynydd. When the Magnox stations were built there was a commitment that the sites could be returned to 'green field sites' at the end of station life. This is not promised for new build.

At Sizewell B the spent fuel will have to cool for at least 90 years after it is removed from the reactor before it could be placed in a GDF so 'high level waste' will be stored on the site for at least 150 years from the start of power generation. Given that safety and security at the site must be maintained for over 90 years after the station is closed in would make sense to build a further station on the site so that an income continues to be generated. Hence the site could store high level waste for even longer. Just to confuse the situation spent fuel is formally not classified as high level waste because in theory it could be recycled as more fuel, but as far as local residents are concerned any risk is the same. It is currently stored in ponds but we know from experience at other stations such as Dresden and Fukushima that this has its risks and a dry store would be safer in the longer term.

**Comment on the Review of the Siting Process for a Geological Disposal Facility (URN13D/250)
(North Wales Workshop 19/11/2013)**

Richard Garnsey

In theory the spent fuel could be moved to a store elsewhere or reprocessed but there is no prospect of either. Why is the Government not insisting that interim dry storage is built at Sizewell B and the public told that it will operate for at least 150 years?

This interim storage of spent fuel will be the situation for all the proposed new build which is why it is relevant to North Wales. The Government and the licensing authorities know that spent fuel is likely to be stored on these sites for at least 150 years and the Regulator is insisting that the plan of interim storage facilities are included in the Generic Design Assessments but they do not directly inform the local people that the facility could store high level waste for this period of time.

At the moment Wylfa could be free of high level waste within a few years of closing and eventually become a green field site. If a new station is built it could be an interim spent fuel store for at least 150 years. If the local people living on Anglesey want a new station and accept an interim store for spent fuel for at least 150 years they might like to know whether this waste could be disposed of in a geological facility with an entrance on the station site if that spent fuel is not recycled as new fuel.

The Scottish Government has stated that it does not want geological disposal in Scotland, it favours near surface storage as close as possible to the source of the waste. However the design and location of such stores for spent fuel and high and intermediate waste following decommissioning are not available. If Scotland were independent they could export spent fuel for reprocessing but would have to accept the return of the high and intermediate level waste. It should be made clear where spent AGR fuel and waste from operation and decommissioning is to be stored indefinitely and at what cost before the Independence Referendum. If residents in the vicinity of Torness or Hunterston knew they would be living next to a high level waste store for a lifetime they just might like to know whether it could be disposed of underground.

The Welsh Government has not limited its options and it does have more control over location a GDF than a nuclear station with a spent fuel store.

Long term storage of high and intermediate waste at existing nuclear station sites will become the norm if a GDF is not built. The first question that should be answered is therefore "what above ground storage arrangements are in place or planned for all AGR, PWR and new build stations".

The consultation process promises geological, IAEA and regulatory information about the suitability of an area for a GDF. However it is not clear if a GDF is feasible beneath particular sites storing high level nuclear waste/spent fuel or within say 20 km from the centre of a site. I believe this is the second question that should be investigated and answered for Sellafield and all existing UK AGR and PWR sites. The question should also be investigated and answered for any site proposed for new build. It makes no sense to elicit public acceptance if the site is geologically unsuitable. It seems to me that these investigations should be completed before any decision is taken to consult local communities about actually building a geological repository. Yes they need to know that sites are under investigation to determine suitability as a disposal site, and possibly compensated for any disruption and the stigma of being on a list, but must be given a guarantee that no decision will be taken about if and where to build before information from all sites is available, a strategy proposed and a referendum of the 'local community' taken to confirm local support.

The definition of 'local community' is clearly a difficult issue which must be resolved. I believe it would be easier if the definition were linked to the compensation proposed as well as proximity to the entrance to any proposed GDF. The compensation must be simple, clear and relatively easy to administer.

Comment on the Review of the Siting Process for a Geological Disposal Facility (URN13D/250)
(North Wales Workshop 19/11/2013)

Richard Garnsey

I suggest the following:-

The owners of sites which store or plan to store high level waste or spent fuel must be **obliged** to investigate the possibility of a GDF beneath that site up to the point when a decision can be made that it is unsuitable or that it should be put forward for local community approval as a GDF.

'Local Community' should be defined as the registered voters living within say 10 or 20 km of the boundaries of the site in question. The compensation could be a reduction in rates both domestic and business by a percentage of say a number between 5 and 10. The local district council(s) that administers this 'local community' would be compensated for administering the scheme and may get grants to improve communal facilities particularly if the population in the area increases. Councils adjacent to the area in question could claim compensation for infrastructure development or enhanced security made necessary by the additional activity on the site. (A poll of these registered voters could be taken to see if they are willing to accept exploration in return for this compensation).

Compensation should start to be paid when exploratory drilling starts but would stop if and when the site is declared unsuitable. DECC and the site owners must keep the local community informed of exploration progress and will need to campaign and educate the 'local community' to get a yes vote if the site is found to be suitable.

If the site is considered suitable and DECC wishes the site to be considered for the development of a GDF then the registered voters in the 'local community' will be asked to participate in a yes or no referendum. If they say yes the compensation continues until a decision by DECC on which sites to continue to develop. Compensation would stop for those sites not selected. There would be no right of withdrawal for the selected site from this point.

For the one or two sites which continue with the process of design, safety case production and planning the compensation would continue until the process was halted by, for example, failure to get regulatory approval because of geological faults discovered.

Once the GDF is in operation the compensation to local communities continues until say five years prior to the closure of the GDF. At this time there should be a Government review to consider whether compensation should continue after closure of the GDF. If the vote is to stop compensation this would be reduced gradually over the five years.

The cost of this compensation and the exploratory investigations should be met by DECC/NDA or claimed back by the private owners of nuclear power stations from the payments they are making to cover decommissioning and disposal.

The wider community interest is covered by the Government and devolved Government's acceptance of such a proposal. If there turns out to be a choice to be made between two or more sites then consultation with a wider community may have to be considered.

If the Sellafield geology is unsuitable there will be transport and logistics problems to add to the GDF site selection process. If all station sites are unsuitable then we will have to rely on long term, near surface, storage or return to a selection process based on geological suitability. Perhaps suitability as a disposal site should be a requirement for future new nuclear power station or fuel reprocessing sites?

Owners of sites other than those that I have proposed could apply to DECC to be included in the initial investigation phase or subsequently if the suggested sites are all found to be unsuitable. If approved by DECC they would have to stick to all the rules.