

Nuclear Free Local Authorities **RADIOACTIVE WASTE POLICY**

Briefing No. 40 – NDA consultations on FED & ILW

Prepared for NFLA member authorities, June 2013

Optimising the number and location of FED Treatment (Dissolution) Facilities in Magnox Limited, Credible Options, Nuclear Decommissioning Authority May 2013.
(<http://www.nda.gov.uk/news/fed-treatment-options.cfm>)

Optimising the number and location of interim Intermediate Level Waste (ILW) storage facilities on Magnox Limited and EDF Energy sites in England and Wales, Credible Options, Nuclear Decommissioning Authority May 2013.
(<http://www.nda.gov.uk/news/ilw-storage-options-england-wales.cfm>)

i. Overview of briefing:

The Nuclear Decommissioning Authority (NDA) has published the two Strategy Papers listed above and invited public comment by Sunday 30th June 2013 (extended from 9 June) to be sent to strategy@nda.gov.uk. This model response has been prepared for the NFLA Steering Committee and NFLA member authorities by the NFLA Policy Advisor and is the basis of its submission to the NDA. NFLA members are encouraged to support and endorse this model response for their own local submission.

The NFLA has already responded to a NDA 2012 consultation on optimising the number and location of interim ILW storage facilities in Scotland, which was released as NFLA Radioactive Waste Briefing 35 and can be downloaded from http://www.nuclearpolicy.info/docs/radwaste/NFLA_RWB_35_Scottish_ILW.pdf.

1. INTRODUCTORY COMMENTS – ENVIRONMENTAL PRINCIPLES:

1.1 The Nuclear Free Local Authorities Steering Committee agreed a set of clear environmental principles which should be used for the management of nuclear waste in October 2004 at its Annual General Meeting in Hull. These are:

- * the idea that radioactive waste can be "disposed" or be rejected in favour of radioactive waste management
- * 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
- * the policy of 'dilute and disperse' as a form of radioactive waste management (i.e. discharges into the sea or atmosphere) be rejected in favour of a policy of 'concentrate and contain' (i.e. store safely on-site)
- * the principle of waste minimisation be supported
- * the unnecessary transport of radioactive and other hazardous wastes be opposed
- * 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

- 1.2 NFLA believes that radioactive waste management policy across the UK should follow a clear set of environmental principles such as those set out above. This would mean that 'disposal' should not be included as a policy option because it breaches the environmental principles.
- 1.3 Both of the papers are described as being consistent with the NDA's Integrated Waste Management (IWM) Strategy, which states that centralised and multi-site approaches should be considered where it may be advantageous. NFLA fundamentally disagrees with this approach, and instead urges the NDA to focus on its original objective of cleaning up the UK nuclear legacy in "*ways which protect the environment for the benefit of current and future generations*". (1)

2. Fuel Element Debris

- 2.1 Many of the old Magnox reactor sites are home to stores of Fuel Element Debris (FED), which consists of the splitters or lugs - essentially "fins" that optimised in-reactor fuel element cooling during generation - removed from Magnox fuel elements before the spent fuel is sent to Sellafield for reprocessing. These splitters or lugs, like the fuel casing itself, are made of a magnesium alloy. Magnesium is inherently a reactive metal.
- 2.2 At Berkeley, Hunterston A and Trawsfynydd FED is packaged for long-term storage and disposal, and the construction of interim waste storage facilities has made progress. The Intermediate Level Waste Store at Hunterston A in Scotland has widespread community support as long as its use is restricted to waste arising on the Hunterston A or Hunterston B sites. Its use in this way is also consistent with the environmental principles supported by the Nuclear Free Local Authorities (see box above).
- 2.3 At Dungeness A station a "Magnox Dissolution Plant" was built in the later 1980s. (2) This has treated FED with acid, reducing the solid waste volume by a factor of about 20 but discharging about 15% of the radioactivity into the environment. Given that this waste management technique relies on the dilution and dispersal method which inevitably leads to increases in radioactive discharges into the marine environment, it is not consistent with the UK Government's commitments to the OSPAR international treaty to reduce such discharges to 'near to zero'. The OSPAR Treaty requires the UK Government to ensure discharges of radioactive substances "*are reduced to levels where concentrations in the marine environment above historic levels ... are close to zero*" by 2020.
- 2.4 Building further dissolution plants after the OSPAR Treaty was signed in 1998 cannot be considered to be consistent with the UK's obligations. Yet Costain was awarded a contract to build a plant at Bradwell in September 2010. (3) Construction of this plant is expected to be completed in July 2013 – later than originally planned. (4) FED was not generated at Wylfa because desplitting of spent fuel elements was not undertaken at the site. (5) That leaves Sizewell A, Oldbury and Hinkley Point A where a decision still has to be made about what to do with FED.
- 2.5 The NDA says treatment by dissolution has already been identified as the preferred approach "*within site-specific Best Practicable Environment Option (BPEO) studies*". The reduction in solid waste volumes has the knock-on effect of reducing the size of store required for interim storage of ILW though it does lead to some discharges of radioactive and non-radioactive by-products to the environment. A BPEO study which countenances the use of the marine environment as a dumping

ground for toxic substances in contravention of an international treaty, simply because it reduces the size of stores required is clearly using a very peculiar weighting system. Concentrating and containing waste rather than diluting and dispersing it is a primary principle of environmental protection.

- 2.6 Aside from the fact that transporting FED waste between sites runs counter to the proximity principle which deems that hazardous waste should not be unnecessarily transported, the NDA proposal to reduce the number of facilities it needs to build by transporting FED waste between sites clearly has no community support. As has previously been shown at Hunterston the idea of bringing waste from outside to a reactor site has virtually no support even amongst those who are generally supportive of the nuclear industry locally.
- 2.7 The NDA should drop plans to build new dissolution plants at Hinkley Point A and elsewhere, cancel plans to open a dissolution plant already under construction at Bradwell, and store the FED waste on the sites where it has been generated in purpose built stores similar to the one at Hunterston.

3. ILW Interim Storage Facilities

- 3.1 The aim of the second paper is *“to establish which sites are the most appropriate locations for interim storage of Intermediate Level Waste across Magnox and EDF Energy Sites within England and Wales.”* Clearly the application of the proximity principle requires waste to be stored at, or very close to the site where the waste was generated.
- 3.2 Confusingly the options paper only looks at Magnox options. A shared approach with EDF Energy will be considered at the next stage in November 2013. Many of the options proposed by the NDA involve moving waste, for example from Oldbury to Berkeley, Dungeness to Hinkley and Dungeness and/or Sizewell to Bradwell. In the NFLA view, these options should be dropped.
- 3.3 As in the case of Scotland where the final preferred option involves moving waste from Hunterston B to Hunterston A, the NFLA considers such short movements to be an acceptable way of optimizing the number of ILW storage facilities whilst continuing to stay within the environmental principles. (6) NFLA agrees with the West Somerset Council view that proposals to transport nuclear waste ignore public health and safety. (7)

4. Conclusions

- 4.1 The proposals in these two papers breach several important environmental principles by failing to concentrate and contain waste and failure to implement the proximity principle.
- 4.2 As suggested by West Somerset Council the NDA should ensure that local councils and other stakeholders are involved in all discussion and consultations, at all stages, on the development of a new strategy for the intermediate storage and treatment of fuel-element debris at Magnox sites and interim storage of Intermediate level waste. (8) The NFLA would be happy to be involved in such discussions.
- 4.3 In short the NDA needs to go back to the drawing board and consider ways to develop a new strategy using a much more open and transparent process.

5. References

- (1) Managing the Nuclear Legacy White Paper, DTI, July 2002
http://www.nda.gov.uk/documents/upload/white_paper_managing_the_nuclear_legacy_a_strategy_for_action.pdf
- (2) See <http://www.no2nuclearpower.org.uk/articles/MagnoxDissolution020.pdf>
- (3) Construction Enquirer 29th September 2010
<http://www.constructionenquirer.com/2010/09/29/costain-wins-75m-nuclear-clean-up-job/>
- (4) <http://www.nda.gov.uk/sites/bradwell/index.cfm?renderforprint=1>
- (5) See
<http://www.magnoxsites.com/UserFiles/File/publications/environmental%20reports/WylfaSEABaselineV1formatted.pdf>
- (6) Intermediate Level Waste Storage Solutions, Central and Southern Scotland Preferred Option, NDA April 2013 <http://www.nda.gov.uk/documents/upload/Intermediate-Level-Waste-Storage-Solutions-Central-and-Southern-Scotland-Preferred-Option-April-2013.pdf>
- (7) Burnham-on-sea.com 6th June 2013 <http://www.burnham-on-sea.com/news/2013/nuclear-waste-06-06-13.php>
- (8) Western Daily Press 6th June 2013 <http://www.thisissomerset.co.uk/Concern-plans-store-nuclear-waste-Hinkley-Point/story-19206109-detail/story.html>