



## NFLA Radioactive Waste Policy Briefing Number 79: Magnox site ILW transfers to Hinkley Point A

Prepared for NFLA member authorities, July 2019

### The impact of the Magnox waste strategy at Hinkley Point A and transporting waste between sites

#### i. Overview of Policy Briefing

This edition of the NFLA Radioactive Waste Policy has been developed by the NFLA Secretariat to respond to new plans from Magnox to transport radioactive waste from a number of its sites in southern England to the Hinkley Point A site in Somerset.

Magnox is seeking planning permission from Somerset County Council to move a small amount of waste to the Hinkley Point A (HPA) Site for interim storage. The Company will be asking for changes to the present legal situation to allow them to bring radioactive waste from other Magnox sites to the new Intermediate Waste Store being built at HPA.

Magnox want to bring 110 Intermediate Level Waste (ILW) metal skips, cut up and delivered in 14 lorry loads. They say it will only take up the remaining 5% space of the store, with no room for any more. They say there is no room to build and expand the store for more waste. However, residents and the NFLA are concerned about the wording of the legal application which could, in theory, allow further imports beyond the proposed 14 lorry loads. Once a precedent has been set perhaps more waste imports could be proposed in future. (1)

This Policy Briefing includes a copy of the NFLA response to the planning application to Somerset County Council, and a series of questions on the issues raised with Magnox and the Nuclear Decommissioning Authority. The closing date for responding to the planning application is the **7<sup>th</sup> July** and responses can be sent to Somerset County Council using the following details:

By post: Planning Department, Somerset County Council, County Hall, The Crescent, Taunton, Somerset, TA1 4DY

By email to: [planning@somerset.gov.uk](mailto:planning@somerset.gov.uk) quoting reference 3/32/19/021 (SCC/3627/2019)

#### 1. Introduction

In October 2004 at its Annual General Meeting in Hull the NFLA Steering Committee agreed a set of clear environmental principles which should be used for the management of nuclear waste. These principles remain fundamental when responding to all consultations on the issues around radioactive waste management.

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.

This means, for instance, that the NFLA opposes the evolving NDA strategy which is involving increasing quantities of radioactive waste being diverted to landfill, metal recycling plants and incineration or waste transported between nuclear sites. The NFLA sees these methods of radioactive waste management as ways of ‘diluting and dispersing’ radioactive waste around the environment, ultimately discharging radioactive substances into our estuaries, seas and atmosphere whilst being classed under the environmentally-friendly sounding ‘waste hierarchy’.

The NFLA will continue to oppose this process of what it sees as ‘radioactive waste management on the cheap’ and continue to argue for techniques based on sound environmental principles, particularly the principle that hazardous waste should be ‘concentrated and contained’ in isolation from the environment.

NFLA remains concerned with the increased amount of transports of radioactive materials around the UK, and is about to publish a separate briefing on this matter. NFLA reiterates its call on the NDA to review the necessity and utility of transports of radioactive materials by road, rail and sea and to avoid them wherever practical to do so. It also calls on a greater level of openness and transparency from NDA with such transports and in discussions with the local authorities through which transports are made, particularly with local authority emergency planning officers and the emergency services. NFLA supports recent calls made in the Westminster and Scottish Parliaments over the NDA informing local authorities of such transports of waste, and involving discussion-making with all Councils on transport routes, to improve emergency planning arrangements.

## **2. The proposal on new transports to Hinkley Point A**

Magnox Ltd is currently a company owned by Cavendish Fluor Partnership Limited, funded by the Nuclear Decommissioning Authority (NDA) to deliver the site closure programme. It is licensed under the Nuclear Installations Act 1965 and holder of the licence for 12 nuclear sites – the 10 Magnox sites, plus Harwell and Winfrith - and one hydro-electric plant.

Magnox Ltd is due to become a subsidiary of the NDA in September 2019.

Magnox is seeking planning permission from Somerset County Council to move what it describes as a small amount of waste to Hinkley Point A Site for interim storage.

Magnox is proposing to import what it calls around 110 Intermediate Level waste (ILW) pond skips to the Hinkley Point A site from Magnox sites at Oldbury, Sizewell A and Dungeness A. According to the Bridgwater Mercury 52 will come from the Dungeness A, 36 will come from Sizewell A and 27 from Oldbury, making a total of 115 (the Mercury says 114). This will create up to 22 additional packages to be stored in Hinkley Point A Site’s ILW Storage Facility (ISF). Magnox says this is approximately five per cent of the store’s total capacity (expressed in terms of concrete boxes) adding less than one per cent to the store’s total radioactivity level. (2)

It is estimated that there will be up to 14 heavy goods vehicle (HGV) deliveries required to bring the skips to Hinkley Point A Site. There will also be a requirement for the delivery of up to 22 additional concrete boxes, and delivery of grout powders. If a Geological Disposal Facility (GDF) (deep underground radioactive waste repository) ever becomes available these packages will be dispatched from the site for emplacement in the repository, along with Hinkley Point A Site’s own packaged waste. According to the November 2009 ‘*Consultation on draft National Policy Statements for Energy Infrastructure*’, assuming the GDF is ready by 2040, which is now beginning to look unlikely, this ‘legacy ILW’ would be emplaced in the repository between then and 2075. (Legacy HLW would then be emplaced up to 2130 with new build waste starting after that, although it might be possible to emplace new build ILW earlier). (3)

If planning permission were to be granted, movement of ILW skips to Hinkley Point A Site would likely take place during spring 2020, which means the waste could be on site for the next 55 years.

Interestingly, NFLA note it had been hoped to decontaminate and recycle these metal skips, but the decontamination trials were not successful. Decontamination would generate relatively high activity ILW millings and more metal would likely be used in the disposal containers for the metal millings (swarf) arising from the decontamination process than could be recovered by the process. (4)

### 3. What is ILW?

Intermediate-level radioactive waste is more radioactive than low-level radioactive waste, but does not generate enough heat to require this to be taken into account of in storage or disposal facilities. However, like other radioactive waste it still needs to be contained to protect people and the environment. ILW arises mainly from the reprocessing of spent fuel and from general operations and maintenance at nuclear sites, and can include metal items such as fuel cladding and reactor components, graphite from reactor cores, and sludge from the treatment of radioactive liquid effluents.

### 4. Radioactive Waste Inventory

Rather surprisingly the 2016 Radioactive Waste Inventory shows that it has been planned for a while to send these 'Fuel Skips in Pond' to Hinkley Point A from Oldbury, Sizewell A and Dungeness. But the numbers in the inventory are not the same as those contained in the consultation document. In the NFLA's view this needs to be explained by Magnox / NDA.

| Waste Stream | Magnox Plant | No. of 6m3 concrete boxes (it is assumed there will be 10 skips per box) |
|--------------|--------------|--|
| 9C44 (5)     | Dungeness    | 6  |
| 9E61 (6)     | Oldbury      | 39   |
| 9F39 (7)     | Sizewell     | 7  |
| Total        |              | 52   |

Each of the three data sheets in the Inventory say *"This waste will be size reduced at the site of origin and transferred to Hinkley Point A for packaging and storage."*

### 5. Transporting the ILW skips to Hinkley

The only information in the consultation material is that a full height ISO container could be used to deliver skips to Hinkley Point A Site in up to 14 HGV movements. (8)

Transport of radioactive material by its nature gives rise to the risk of accidents with the potential for radiological exposures that could impact the safety of people, property and the environment.

According to IAEA Regulations *"A package should be designed to provide sufficient shielding to ensure that, under routine conditions of transport and with the maximum radioactive contents that the package is designed to contain, the radiation level at any point on the external surface of the package would not exceed the values specified ..."*

The values specified include – *"the external surface of an excepted package shall not exceed 5  $\mu$ Sv/h."*

Freight containers with the characteristics of a permanent enclosure may be used provided that the radioactive contents are restricted to solid materials and they are designed to conform to the International Organization for Standardization document ISO 1496/1 and designed such that if subjected to the tests prescribed in that document and to the accelerations occurring during routine conditions of transport they would prevent: (i) Loss or dispersal of the radioactive contents; (ii) More than a 20% increase in the maximum radiation level at any external surface of the freight containers. (9)

There is no information provided to indicate that the transport containers will meet these regulations.

Local Authorities will want to know that the packages meet International Regulations, and that they have been tested to ensure they can meet the regulations under accident conditions.

Local Authorities will also need to know what arrangements are being made for emergencies should there be an accident, and whether the NDA will enter discussions with the local authorities through which transports are made, particularly with local authority emergency planning officers and the emergency services, and will they inform all local authorities on the transport routes before the transports are made.

## 6. Conclusions

NFLA make the following four core conclusions to this request from Magnox / NDA to Somerset County Council:

- The skips, once transported to Hinkley Point A and placed in concrete containers could remain on site until at least 2075.
- The numbers of skips and concrete boxes given in the 2016 Radioactive Waste Inventory do not match those given in the information leaflet. This needs to be explained.
- Local Authorities will want to be reassured that the packages intended to be used to transport the skips meet International Regulations, and that they have been tested to ensure they can meet the regulations under accident conditions.
- Local Authorities will also need to know what arrangements are being made for emergencies should there be an accident, and whether the NDA will inform all local authorities on the route before each transport is made.

## 7. References

- (1) Bridgwater Mercury 30<sup>th</sup> May 2019  
<https://www.bridgwatermercury.co.uk/news/17671909.have-your-say-on-plans-to-transport-extra-nuclear-waste-through-bridgwater/>
- (2) The impact of the Magnox waste strategy at Hinkley Point A Site, NDA, Magnox and Cavendish Information Leaflet 28<sup>th</sup> May 2019  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/804477/Hinkley\\_Point\\_A\\_Site\\_Skips\\_Info\\_Flyer\\_MAY\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/804477/Hinkley_Point_A_Site_Skips_Info_Flyer_MAY_2019.pdf)
- (3) Consultation on draft National Policy Statements for Energy Infrastructure, DECC November 2009  
<https://webarchive.nationalarchives.gov.uk/20110302182102/http://data.energynpsconsultation.decc.gov.uk/documents/condoc.pdf> see Annexe G para 28, page 148
- (4) Hinkley Point A Site – Intermediate Level Waste (ILW) skips - Q&A MAY 2019  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/804479/Hinkley\\_Point\\_A\\_Site\\_Skips\\_Q\\_A.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/804479/Hinkley_Point_A_Site_Skips_Q_A.pdf)
- (5) <https://ukinventory.nda.gov.uk/wp-content/uploads/sites/18/2017/03/9C44.pdf>
- (6) <https://ukinventory.nda.gov.uk/wp-content/uploads/sites/18/2017/03/9E61.pdf>
- (7) <https://ukinventory.nda.gov.uk/wp-content/uploads/sites/18/2017/03/9F39.pdf>
- (8) The impact of the Magnox waste strategy at Hinkley Point A Site, NDA, Magnox and Cavendish Information Leaflet 28<sup>th</sup> May 2019  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/804477/Hinkley\\_Point\\_A\\_Site\\_Skips\\_Info\\_Flyer\\_MAY\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/804477/Hinkley_Point_A_Site_Skips_Info_Flyer_MAY_2019.pdf)
- (9) Regulations for the Safe Transport of Radioactive Material, IAEA 2012 [https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1570\\_web.pdf](https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1570_web.pdf)

**Appendix 1**

**NFLA formal response to Somerset County Council planning application on Hinkley Point A  
and specific questions made to Magnox / NDA**

Planning Department,  
Somerset County Council,  
County Hall,  
The Crescent,  
Taunton,  
Somerset, TA1 4DY

Emailed to [planning@somerset.gov.uk](mailto:planning@somerset.gov.uk)

Dear Sir or Madam,

**Magnox/NDA Proposal to Transport of Nuclear Waste to Hinkley Point A - 3/32/19/021**  
(SCC/3627/2019)

We write to formally object to the Magnox application to Somerset County Council to move what it describes as a small amount of waste to Hinkley Point A Site for interim storage.

We understand that Magnox is proposing to import what it calls around 110 Intermediate Level waste (ILW) pond skips to the Hinkley Point A site from Magnox sites at Oldbury, in Gloucestershire, Sizewell A in Suffolk and Dungeness A in Kent. According to the Bridgwater Mercury 52 will come from the Dungeness A, 36 will come from Sizewell A and 27 from Oldbury, making a total of 115 (the Mercury says 114). This will create up to 22 additional packages to be stored in Hinkley Point A Site's ILW Storage Facility (ISF).

We object to this on the grounds that it is an unnecessary addition to the hazardous waste transported on our roads. As a matter of principle the NFLA objects to the unnecessary transport of radioactive and other hazardous wastes and believes wastes should 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.

It is estimated that there will be up to 14 heavy goods vehicle (HGV) deliveries required to bring the skips to Hinkley Point A Site. There will also be a requirement for the delivery of up to 22 additional concrete boxes, and delivery of grout powders.

If a Geological Disposal Facility (GDF) ever becomes available these packages will be dispatched from the Hinkley Point A site for emplacement in the repository, along with the site's own packaged waste. According to the November 2009 'Consultation on draft National Policy Statements for Energy Infrastructure', assuming the GDF is ready by 2040, which is now beginning to look unlikely, this 'legacy ILW' would be emplaced in the repository between then and 2075. (1) The means the waste could be on site for the next 55 years.

The only information in the consultation material is that a full height ISO container could be used to deliver the skips to Hinkley Point A Site in up to 14 HGV movements. (2) Transport of radioactive material by its nature gives rise to the risk of accidents with the potential for radiological exposures that could impact the safety of people, property and the environment.

According to IAEA Regulations "A package should be designed to provide sufficient shielding to ensure that, under routine conditions of transport and with the maximum radioactive contents that the package is designed to contain, the radiation level at any point on the external surface of the package would not exceed the values specified ..."

The values specified include – "the external surface of an excepted package shall not exceed 5 µSv/h."

Freight containers with the characteristics of a permanent enclosure may be used provided that the radioactive contents are restricted to solid materials and they are designed to conform to the International Organization for Standardization document ISO 1496/1 and designed such that if subjected to the tests prescribed in that document and to the accelerations occurring during routine conditions of transport they would prevent: (i) Loss or dispersal of the radioactive contents; (ii) More than a 20% increase in the maximum radiation level at any external surface of the freight containers. (3)

There is no information provided to indicate that the transport containers will meet these regulations.

Local Authorities will want to know that the packages meet International Regulations, and that they have been tested to ensure they can meet the regulations under accident conditions.

Local Authorities will also need to know what arrangements are being proposed for emergencies should there be an accident, and whether the NDA will enter discussions with the local authorities through which transports are proposed, particularly with local authority emergency planning officers and the emergency services, and if they will inform all local authorities on the transport routes before the transports are made.

- (1) Consultation on draft National Policy Statements for Energy Infrastructure, DECC November 2009

<https://webarchive.nationalarchives.gov.uk/20110302182102/http://data.energynpsconsultation.dec.c.gov.uk/documents/condoc.pdf> see Annexe G para 28, page 148

- (2) The impact of the Magnox waste strategy at Hinkley Point A Site, NDA, Magnox and Cavendish Information Leaflet 28th May 2019

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/804477/Hinkley\\_Point\\_A\\_Site\\_Skips\\_Info\\_Flyer\\_MAY\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/804477/Hinkley_Point_A_Site_Skips_Info_Flyer_MAY_2019.pdf)

- (3) Regulations for the Safe Transport of Radioactive Material, IAEA 2012 [https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1570\\_web.pdf](https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1570_web.pdf)

## Annexe

We have also sent the following questions to: [steve.j.payne@magnoxsites.com](mailto:steve.j.payne@magnoxsites.com)

Re: Magnox application for planning permission from Somerset County Council to move waste from Dungeness, Oldbury and Sizewell to the Hinkley Point A (HPA) Site for interim storage.

NFLA have the following questions of Magnox / NDA:

1. Are we right in thinking that the waste in question is covered in the UK Radioactive Waste Inventory (2016) by the following data sheets: 9C44; 9E61; 9F39?
2. The number of concrete boxes and skips given in the inventory are not the same as those contained in the consultation document. According to the Bridgwater Mercury 52 skips will come from the Dungeness A, 36 will come from Sizewell A and 27 from Oldbury, making a total of 115. The Inventory suggests a total of 520 skips. Please explain.
3. The only information in the consultation material is that a full height ISO container could be used to deliver skips to Hinkley Point A Site in up to 14 HGV movements. Transport of radioactive material by its nature gives rise to the risk of accidents with the potential for radiological exposures that could impact the safety of people, property and the environment. What tests have been performed on these containers to ensure that in the event of an accident they would prevent Loss or dispersal of the radioactive contents?
4. Is there a limit set for level of radiation on the external surfaces of the container?
5. Will the transport containers comply with international regulations?

6. What arrangements are being made for emergencies should there be an accident? Will the NDA enter discussions with the local authorities through which transports are made, particularly with local authority emergency planning officers and the emergency services, and will they inform all local authorities on the transport routes before the transports are made?