

## **Case Study 5**

# **On-site storage for Intermediate Level Waste at Berkeley site**

**Revised December 2022**

## **1: Outcome**

Planning permission was granted in July 2007 for an on-site storage facility for ILW at the Berkeley nuclear licensed site. As a condition of the planning permission the store may only accept ILW generated at the Berkeley site. Construction must commence within three years of the planning permission being granted and the store must be cleared from site within three years of a national geological disposal facility becoming available to accept the site's ILW. The latter condition can be varied with written authorisation from the Waste Planning Authority.

## **2: Benefit to the Community**

The store will provide safe and robust protection for managing ILW pending construction of the national geological disposal facility. On-site storage removes the need for transportation of the waste to another site for storage, reducing road traffic and minimising potential risks.

## **3: Background**

Decommissioning at Berkeley began in 1989 after 27 years of electricity production. At present, the decommissioning strategy preferred by Magnox South is for deferred site clearance, with total site clearance taking place approximately 100 years after the station has ceased to generate. This strategy has been adopted as it "minimises risk to workers, public and the environment, minimises waste volumes, is technically straight forward and makes financial sense".<sup>1</sup>

## **4: Process**

Magnox Electric undertook a Best Practicable Environmental Options (BPEO) assessment to identify the preferred approach for storage of ILW from the Berkeley site. Options considered were:

1. Do nothing
2. On-site store
3. Off-site store (Berkeley waste only)
4. Off-site store (shared facility)
5. Defer decision.

Options 1 and 5 were discounted as they were unlikely to receive regulatory approval. The remaining options were subjected to a detailed study considering:

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<sup>1</sup> Text from Magnox Southsites website (no longer available online)

- health and safety, risk and exposure
- environmental impacts, technical and practical issues
- socio-economic issues
- cost effectiveness.

The on-site store was found to be the preferred option. A Best Practicable Means (BPM) assessment was then carried out to identify the preferred location of the store on the Berkeley site. Possible siting options were assessed against the same criteria as in the BPEO. Both the BPEO and BPM used the Multi Attribute Decision Analysis (MADA) methodology, which evaluates the factors which are important in distinguishing between the different options under review. There were also a number of constraints which applied to both processes, including the requirement to comply with UK legislation and regulations, a storage capacity of 1200 Nirex 3m<sup>3</sup> packages, and a design life of 150 years (with an operating life of 100 years).

As a result of these two assessments in April 2007 Magnox Electric Ltd submitted a planning application to Gloucestershire County Council for an "ILW storage building, relocation of existing security fence, temporary storage of excavated material, landscaping and associated works." The application was publicised in a locally circulating newspaper, a number of local properties were sent "near neighbour" consultation letters and a site notice was posted. Only one representation was received from the general public. A public exhibition was held at two local town halls and colour information leaflets were produced.

Whilst none of the statutory consultees objected to the proposals, both Forest of Dean and Stroud District Council requested that there be a prohibition on storing waste from other sites. Other comments related to: controlling pollution during the construction phase (Environment Agency), provision of an environmental statement regarding the eventual demolition of the store (Nuclear Installations Inspectorate), temporary parking area, signage and wheel cleaning during construction (Council Highways) and continued access to the riverbank and slipway (Gloucester Harbour Trustees).

## **5: Next Steps**

Excavation works for the foundations began towards the end of 2008. Key Activities for the year 2010/11 for the Berkeley site in the NDA Draft Business Plan 2009-2012 include commencement of the Mechanical Plant Design for the ILW store and foundation slab laying for the store. Construction of the store was completed in 2014<sup>2</sup>.

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<sup>2</sup> [New UK waste facilities completed - World Nuclear News \(world-nuclear-news.org\)](http://world-nuclear-news.org/World_Nuclear_News/New_UK_waste_facilities_completed)