

# Environment Agency Report to the Berkeley Site Stakeholder Group

22<sup>nd</sup> May 2019

## Introduction

This report covers the Environment Agency's regulation of the Berkeley nuclear site and related issues for the period January 2019 to May 2019.

## Radioactive substances regulation

We regulate radioactive waste disposals to the environment. We do this through environmental permits that contain limits and conditions aimed at minimising wastes and protecting the environment. We also check compliance with these permits by making regular inspections at Berkeley.

Radioactive Substances Compliance Assessment Reports (RASCAR) detailing our inspections and any non-compliances found, are available on the Public Register<sup>[1]</sup>.

We maintain regular contact with the sites by telephone and e-mail in addition to our formal correspondence and visits to the sites.

## Site Regulation

Our work at Berkeley has been focussed on the following themes and issues in the last four months:

- In March we inspected Berkeley's arrangements for the sentencing and clearance of waste. This involved discussions with site staff, review of documentation and inspecting the areas where wastes are assessed and stored prior to sentencing off-site. We did not find any

non-compliances with the permit. We made five observations relating to potential improvements in Magnox's procedures, which we believe will help reduce the risk of future non-compliance.

- In April, the new site regulators (see below) attended a meeting at Oldbury to review developments with regards Intermediate Level Waste (ILW) across the south west Magnox sites (i.e. Hinkley Point, Oldbury and Berkeley).
- On the 1<sup>st</sup> May, the EA regulation of the Berkeley site passed over to Sophie Gallagher supported by Dr Rob MacGregor (who was up to recently the EA regulator for Hinkley Point A).
- The new site regulators will attend the site in May for a familiarisation visit and plan to undertake an inspection on site in June.

## Permitting

- We are currently undertaking an EA initiated variation to the site permit as a result of our new Guidance on Requirements for Release from Radioactive Substances Regulation (GRR)<sup>[2]</sup> which sets out our requirements with regard to interim and final end states. These include submission of plans by the site in order to demonstrate that environmental protection standards are maintained now and into the future. No changes to the existing site discharge limits for gaseous or liquid discharges are planned as part of the variation.

<sup>[1]</sup> <https://www.gov.uk/access-the-public-register-for-environmental-information>

<sup>[2]</sup> For a non-technical summary of this guidance please see: [www.sepa.org.uk/media/365894/grr-non-technical-summary.pdf](http://www.sepa.org.uk/media/365894/grr-non-technical-summary.pdf)

- As discussed at previous Berkeley SSG meetings, some of the processing of ILW at Berkeley to produce long-term waste packages for the Geological Disposal Facility (GDF) will lead to additional discharges of gaseous tritium (tritium is a radioactive isotope of hydrogen). This tritium is already present in the waste and this can be liberated during the encapsulation process, which generates heat. Magnox have identified that there is the potential for tritium discharges to exceed the site's current annual permitted discharge limit for tritium of 0.02 terabecquerels (0.02 TBq).

As a result of this, Magnox are now discussing with us the potential for an application to vary the Berkeley permit to raise the permitted gaseous discharge limit for tritium to 2 TBq a year. Although the size of this increase appears significant, tritium's low radiotoxicity means that the resultant additional radiological dose to the most exposed member of the public is assessed to be extremely low at around 1-2 microsieverts a year ( $\mu\text{Sv}/\text{year}$ ). The increased discharge limit of 2 TBq/year that Magnox are seeking, remains lower than the permitted site discharge limit for tritium when the station was defuelled in the 1990s, which was 8 TBq/year. We expect Magnox's application to vary the permit in the latter half of 2019.

Prior to Magnox making an application to us to vary the Berkeley permit, there is a requirement under Article 37 of the Euratom Treaty for a related data submission to be made to the European Commission (EC). The main purpose of this is for the EC to assess what the radiological impacts of the proposed discharge limits are on neighbouring EU states, which in this case are assessed as extremely small (i.e.  $\sim 0.00005 \mu\text{Sv}/\text{year}$ ).

Magnox submitted their Article 37 data report to us for review in March 2019. We have now reviewed this report and sent it on to the Department for Business, Energy, and Industrial Strategy (BEIS) for onward transmission to the European Commission where it will be assessed. Typically, the outcome of this assessment takes between 6 and 12 months. No changes to the permit can be made until this assessment is complete.

We will keep the SSG informed on both Magnox's plan for an application to vary the permit and the related Article 37 submission.

## Events and enforcement

No enforcement action has been necessary at Berkeley in this period.

## Discharge reports

Magnox at Berkeley are required to report liquid and gaseous discharges to the environment to us on a regular basis. We assess these to check compliance with the site permits. The site discharge reports and our assessments are placed on the public register.

Liquid and gaseous discharges from Berkeley were within the permitted limits and notification levels during this period.

## Environmental impact

Nuclear sites are required to carry out a rigorous environmental monitoring programme that requires the operator to monitor and assess the impact of their discharges on the environment.

Additionally, the Environment Agencies and Food Standards Agency carry out independent environmental monitoring around nuclear sites. The results of this work are published in our annual Radioactivity in Food and the Environment (RIFE) report<sup>[3]</sup>.

In the RIFE report the Berkeley and Oldbury sites are considered together for the purposes

<sup>[3]</sup> <https://www.gov.uk/monitoring-radioactivity>

of environmental monitoring because of the sites' close proximity to each other. The report presents a yearly assessment of radiological dose to the group of people in the local population who are most exposed to radiation from the sites. In the latest report for 2017 (RIFE-23), the total radiation dose to this group of people as a result of site discharges and radiation shine from the sites was very low at less than 5  $\mu\text{Sv}/\text{year}$ . This is less than 0.5% of the Government dose limit of 1000  $\mu\text{Sv}/\text{year}$  and an even smaller percentage of the average amount of radiation we all receive from natural sources, which is approximately 2200  $\mu\text{Sv}/\text{year}$ .

The radiological doses from discharges from the Oldbury and Berkeley to the most exposed member of the public have remained very low over the last 8 years and are expected to remain so.

### Further information

Further information on our role in regulating the use of radioactive substances and related activities on nuclear licensed sites can be found on the Environment Agency section<sup>[4]</sup> of the GOV.UK website.

The Environment Agency's regulators for the Berkeley site are Sophie Gallagher and Dr Rob MacGregor.

Sophie and Rob are Nuclear Regulators and part of the national Nuclear Regulation Group (South) which is based at the Environment Agency's Wallingford office in Oxfordshire.

The EA's Nuclear Regulators undertake environmental regulation of radioactive substances on nuclear licensed sites in southern England. They work closely with the local Environment Agency teams in those areas as well as external bodies such as the Office for Nuclear Regulation.

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<sup>[4]</sup> <https://www.gov.uk/government/publications/nuclear-regulation-in-the-environment-agency>

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