

# Bradwell Site LCLC

Report for July to December 2018

**This report covers our regulation of Bradwell site and related issues.**

## Radioactive substances regulation

We regulate radioactive waste disposals to deliver the best outcome for the environment. We do this by placing limits and conditions in the environmental permits that help us ensure radioactive waste discharges are minimised and the environment is protected.

We did not identify any non-compliances with permit conditions at Bradwell site during the period since the previous LCLC. Generally we remain satisfied that Magnox achieves a good level of compliance with our regulatory requirements at Bradwell site.

In November, ONR consulted us on their intentions to issue the Bradwell site with a Consent to enter the Care & Maintenance stage of decommissioning and we confirmed that from an environmental permitting perspective, we were content for them to do so.

## Site Inspection

Our regulatory focus over the past six months has been on assessing progress with preparations for the Bradwell site to enter the Care & Maintenance state.

We attended a commissioning test of waste management arrangements in June and carried out readiness inspections at Bradwell site and at Sizewell A in November. We reviewed the readiness of the Bradwell site to enter Care & Maintenance against the joint EA and Natural Resources Wales guidance document “The decommissioning of nuclear facilities”, available at this location:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296510/LIT\\_8828\\_c654b3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/296510/LIT_8828_c654b3.pdf). In particular we considered Appendix D “deferred decommissioning”.

We assessed the adequacy of Magnox’s assessment of potential releases to the environment, the removal of hazards from site, the containment of remaining wastes, asset management, monitoring and alarm response, and management arrangements under Care & Maintenance.

We noted during our readiness inspection on in November that some radioactive waste remained on site. Magnox showed us their plans to package this waste by the end of the year and have it shipped off site by the end of January 2019. A quantity of non-radioactive is also present. More will be generated by the demobilisation programme, which will continue into the first quarter of 2019. Disposal routes are available for this waste. We believe the target dates Magnox has set for removing the wastes are achievable.

We made a number of observations and suggested improvements to be carried out. We believe these improvements will not be impacted by the entry into Care & Maintenance.

We responded to ONR’s consultation on their intentions to use their primary powers to issue a consent for Bradwell to enter Care & Maintenance. In summary we believe that in its current configuration Bradwell site does not pose a significant risk of harm to the environment. Magnox has realistic plans and resources in place to deliver the site into Care & Maintenance within a short time.

## Regional working

Staff at Sizewell A are progressively taking responsibility for managing Bradwell site. In the case of the environmental team and the waste team we expect this process to be complete by March 2019. We are monitoring this transition process to confirm that sufficient staff are present at each site.

## Stakeholder Communications

We supported an evening public drop-in event, hosted by Magnox, on the entry of Bradwell into Care & Maintenance in Steeple on 29 November 2019. We provided background information about our regulatory roles and responsibilities and further information from discharge and environmental monitoring, from Magnox's programme as well as our own independent monitoring, in the area around the Bradwell site.

This monitoring programme shows that the levels of radioactivity in the local environment are very low and that there is a continuing downward trend. We will also be available to provide further information at a public drop-in event, at the MICA centre on Mersea Island which is being held on 11 December, between 5:30 and 7:30 pm.

## Permit Variation

We are in the process of determining a permit variation for the Bradwell site, and a variation to the sites CEAR (Compilation of environment Agency Requirements). The variations will set revised regulatory requirements for the Bradwell site during Care and Maintenance.

We will issue the permit early in 2019, to reflect the completion of wastes processing from the care and maintenance preparations and the sites entry into care and maintenance.

## Discharge Reports

Nuclear sites are required to routinely report to us their liquid and gaseous discharges to the environment. We review these reports for compliance which is detailed in a RASCAR, and subsequently placed on the public register.

We assessed monitoring returns and have trended releases to September 2018 (the most recent date for which we have data). Discharges of active liquid effluent have ceased. Gaseous emissions have reduced to levels similar to those recorded in 2014, before treatment of the Fuel Element Debris (FED) began at Bradwell.

From an environmental impact perspective the discharges are not significant and remain far below the levels when Bradwell was an operating power station. Environmental Monitoring. The independent monitoring data indicates that the levels of radioactivity found in the environment remain low and close to background levels.

The site's permit also contains a requirement to carry out a suitable environmental monitoring programme, to monitor and assess the impact of their discharges on the environment. The monitoring data from Magnox's programme continues to indicate the level of radioactivity in the environment is low.

More information provided in the factsheet 'Assessment and monitoring of discharges and their impact', attached to this report

## Environmental Impacts

The RIFE report presents a yearly assessment of radiological dose to individuals in the vicinity of nuclear sites

The latest report, "Radioactivity in Food and the Environment 2017" (RIFE 23) is published on the SEPA website at:  
<https://www.sepa.org.uk/media/383722/rife-23.pdf>

RIFE 23 includes an annual assessment of radiological dose to the group of people in the local population identified as being most exposed to radiation from the Bradwell site. In 2017, the total dose to this group of people was 0.011 millisieverts, compared to 0.036 millisieverts in 2016 and 0.017 millisieverts in 2015. The reason for this decrease is a lower estimate of direct radiation from site in 2017 than in 2016. The attributed dose to a high rate consumer of locally grown foods in 2017 - i.e. associated with radioactive discharges from the site - was estimated to be less than 0.005 millisieverts.

These radiological doses are well below the UK Government dose limit for members of the public from man-made sources of 1 millisieverts per year.

## On-going regulation of Bradwell under Care & Maintenance

On 29 November 2018, we attended a celebration event, to mark the Bradwell site's entry into care and maintenance. The event was hosted by Magnox and attended by local councillors and members of the LCLC and other VIPs, including senior representatives from the NDA, nuclear operators and ONR and EA.

We welcome Bradwell's entry into care and maintenance, which represents the culmination of the site's decommissioning programme over the past 10 years. This celebration was a great opportunity to acknowledge the progress made at Bradwell, which marks a major milestone in the UK's programme to decommission the first generation of Magnox nuclear sites, and the first time such a site is placed into a passive state in the UK.

Although the most significant hazards have been removed from site or made passively safe for the Bradwell site to enter Care & Maintenance, the site remediation and restoration plan has not finished. There remain some areas of site that remain radioactive, which are due to be decommissioned at final site clearance (FSC). Magnox retains responsibility for ensuring these facilities are appropriately controlled and managed throughout this period. Discharges and disposals will reduce to a much lower level than they were when the site was undergoing operational or decommissioning work. These will still be regulated through the environmental permit.

We will tailor our regulatory activities, proportionate to the risks from site, whilst ensuring the standards of protection of the public and environment are maintained. We will continue to independently scrutinise Magnox's arrangements for compliance, taking on board the views of local stakeholders and interested parties, where relevant.

The Bradwell site will continue to be regulated under the Environmental Permitting Regulations (EPR) 2016 and will have environmental permits for both radioactive substances activities and water discharges.

Magnox will continue monitoring and reporting of radioactive discharges from the site and an environmental monitoring programme around the site to confirm whether any levels of radioactivity in the local environment are below acceptable levels.

We will continue to regulate the site to check that discharges and waste disposals are minimised, there is adequate surveillance monitoring of the site by Magnox, that the potential ageing, deterioration and obsolescence of the facility is assessed; and that the site is maintained in a condition that minimises the need for active environmental protection, monitoring systems or human intervention in relation to waste management and disposals during the Care & Maintenance period.

### Further Information

Contact the Environment Agency's Lead Regulator for the Bradwell site:

Peter Reynolds, based in the Nuclear Regulation Group (South),

Email: [peter.reynolds@environment-agency.gov.uk](mailto:peter.reynolds@environment-agency.gov.uk)

Telephone: 020302 59731/ 07780 748 691

customer service line  
03708 506 506

incident hotline  
0800 80 70 60

floodline  
0845 988 1188

[www.gov.uk/environment-agency](http://www.gov.uk/environment-agency)