

# Environment Agency report

**Winfrith Site Stakeholder Group**

**April 2022**

This report covers the Environment Agency's regulation of the Winfrith Nuclear Licensed and permitted site (and related issues), over the period from the last SSG meeting (October 2021 to April 2022).

## **Nuclear site regulation during the Coronavirus pandemic**

Throughout the period of the C-19 pandemic, the Environment Agency remained focussed on the protection of people and the environment.

During this period, we set out how we carried out our work across the many areas we regulate, and provide advice and interaction with the public (for example, providing flood defence and flood warning, environmental sampling, permitting, angling and fisheries, waterways management and billing (see [GOV.UK](https://www.gov.uk))). Currently:

- We are fully operational, with a balance between office attendance and staff working from home.
- Frontline staff have returned to near normal regulatory work; including physical site inspections, where appropriate.
- All frontline staff follow guidance to reduce their risk of contracting or transmitting coronavirus.

Please see our published C-19 update for further information:

<https://www.gov.uk/government/news/coronavirus-environment-agency-update>

## **Radioactive substances regulation**

We regulate processes and systems associated with radioactive waste disposals. We do this through environmental permits that contain conditions and limits the operator must comply with, to protect people and the wider environment. We check compliance with the permits through routine interaction with the operator and by undertaking regulatory inspections.

Working with colleagues across the Environment Agency, we may also regulate other activities through our environmental permits, including surface and groundwater discharges.

Regulatory compliance interactions are recorded in Radioactive Substances Compliance Assessment Reports (RASCARs). These summarise the type of work we have undertaken, describe any non-compliance or observations of good practice, and include actions or recommendations from our findings. They are public register records and can be provided on request (please see the 'further information' section at the end of this document to find out how to request public register records-in the link below).

## **Permitting**

Magnox holds two permits under the Environmental Permitting Regulations (EPR) at the Winfrith site: one covers Environment Agency regulated radiological discharges and waste

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transfers from the site (the 'nuclear' EPR permit); the second covers the discharge of non-radiological aqueous effluent via the Winfrith Sea Pipe line (the 'non-nuclear' EPR water discharge permit).

No changes have been made to either permit since the last SSG meeting, however, we are providing advice to Magnox on our permitting requirements in relation to future applications; including those for conventional waste management controls, as the site moves through the final stages of decommissioning.

### **Regulatory and Compliance Activities**

We check compliance with the permits through regular contact with the operator and through site meetings and inspections. We also receive and assess a range of monthly reports from the site. For all inspections, we issue RASCAR reports.

We have produced a new inspection plan for the financial year 2022/23 and plan to inspect the permit compliance arrangements for the following topic areas:

- Quarter 1 inspection; Management of aqueous discharges-preparation for the cessation of Active Liquid Effluent System (ALES) operations and preparation for dismantling and removal of the Winfrith Sea Pipeline;
- Quarter 2 inspection: Asset Management;
- Quarter 3 inspection: Integrated waste management-radioactive and conventional waste for decommissioning work;
- Quarter 4 inspection; Consolidating environmental and sustainability awareness within decommissioning decision making (including contractor and supply chain).

We continue to hold weekly (virtual) meetings with the Magnox environment team and relevant Magnox managers, to ensure permit compliance and reporting requirements remain fit for purpose during ongoing decommissioning work, and assess emerging issues and progress with actions.

We also work closely with the Winfrith site End State team and other relevant stakeholders (including Dorset Council, Natural England and ONR) to facilitate planning for the site's final stage decommissioning work. This work is required to meet the Environment Agency GRR guidance on requirements for release of the site from radioactive substances regulation (once all the relevant decommissioning work and verification monitoring has been completed). Whilst the precise end state date for the site is still to be confirmed, preparatory work to achieve these requirements, continues at pace.

### **Inspection Work since the October 2021 SSG report**

In Quarter 3, we undertook an inspection of the site's environmental leadership and culture; this was a joint inspection with the EA Harwell site regulator, as both sites have shared management arrangements and leadership team.

During the inspection, we talked to members to the leadership team, project team, waste and environment team. Our objective was to understand the approach to environmental management and its inclusion in decommissioning planning and decision making. We also considered the organisational capability and resources to provide environmental protection measures to their work.

The inspection was very positive, and a number of areas of good practice were identified. These included the work done by the site's senior management/leadership team to

promote an appropriate environmental culture, and the recruitment and strengthening of the environmental capability at the site. We welcomed the development of a Winfrith Local Environmental Forum and various working group committees at Winfrith to engage site staff and raise the profile of environmental protection. We made some recommendations regarding environmental training and development.

There were no permit non-compliance issues identified. A key concern related to the environment management base line resource and absence of a permanent environment manager. We note that since this inspection, Winfrith have successfully appointed a permanent environment manager and a replacement senior Environment, Safety and Security Manager.

Review work in Quarter 4 (2022/23) has focussed on modifications to the Winfrith Environmental Monitoring programme for the next stages of decommissioning. The monitoring programme helps demonstrate that operations at the site are appropriately managed to protect people and the environment (see Environmental Impact- below). The review of a monitoring programme is undertaken periodically and we expect this work and any agreed changes to the programme will be completed in the next few months.

### **Discharge Reports**

The site's environmental permit requires Magnox to use Best Available Techniques (BAT) to minimise generation of radioactive waste, and minimise any permitted releases into the environment. The site is required to report permitted liquid and gaseous discharges to the environment on a regular (quarterly) basis. We assess these reports and produce a RASCAR on our findings.

Limits are set in the Winfrith EPR permit to control the maximum level of radioactivity that can be discharged to atmosphere as a gaseous discharge or to sea through the Winfrith Sea Pipeline, over a rolling twelve month period.

Liquid effluent discharged to the sea at Arish Mell via the Active Liquid Effluent System (ALES) and Winfrith Sea Pipeline remain well below permit limits, equivalent to previous reports and approximating to less than 1% of the permitted limit set for the site. We note that ongoing decommissioning work may further reduce the aqueous discharges over time, as this work progresses.

Gaseous discharges also remain compliant and well below permitted limits, approximating to less than 4% of the permitted limit set for the site. Although these discharges remain low, it is noted that the relative level of these gaseous discharges may fluctuate as the decommissioning programmes evolve.

### **Environmental impact**

The site environmental permit requires the operator to monitor and assess the impact of discharges on the environment.

Monitoring undertaken by the operator, indicates that the environmental impact from the permitted discharges remains low.

The Environment Agencies and Food Standards Agency also carry out independent environmental monitoring around nuclear sites. These monitoring programmes support our regulatory function and provide reassurance that public radiation exposures are within legal limits. The results of this work are published annually and the latest report, "Radioactivity in Food and the Environment 2020" (RIFE 26), is published on the GOV.UK website.

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## [Radioactivity in food and the environment \(RIFE\) reports - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/rife-reports)

This 26th edition contains information on radiation exposures (dose) to the public and radioactivity levels in the environment in 2020, from nuclear sites and other industrial and landfill activities.

Radiation Doses to the most exposed people are calculated and measured using radioactivity concentrations in samples of food and the environment collected around UK nuclear licensed sites, external dose rates from radiation in sediments, and information on people's living habits around the sites.

The report for the 2020 period continues to show that total doses to the public, from permitted discharges and direct radiation around UK nuclear sites, remained below the annual legal limit to protect members of the public (set at 1 millisievert per annum (mSv)). Radioactivity from natural background, rather than nuclear sites, continues to be the more significant source of exposure to communities in all areas of the UK.

For the 2020 period, data from RIFE 26 for Winfrith, indicates that the total dose to individuals and members of the public from all pathways and sources of radiation from the site was 0.014 mSv, (this is reduced from 0.027 mSv in the previous 2019 period). For the Winfrith site, the representative person in 2020 was an adult living near the site, which is the same potential exposure pathway as identified in previous years. The primary source for the attributed dose is from direct radiation shine. The total dose from all pathways is considered to be very low and approximates to less than one and a half per cent of the government derived national dose limit applied to protect members of the public of 1mSv. Within the overall estimates for total dose, exposures associated with the permitted aqueous or gaseous discharges from the site, remain a very small component of this dose, and at a similar level to those reported in the 2019 period.

The next RIFE report (RIFE 27) (for the 2021 period) is expected in the late autumn 2022.

Notification of the release of the 27th edition of RIFE will be provided to the SSG with an appropriate summary, on release.

### **Incidents and enforcement**

There have been no new incidents or enforcement actions reported since the last SSG report.

### **Forward Look**

We will continue our work in preparation for the final stages of decommissioning and will be focussing on the management of radioactive wastes from the planned dismantling of the sites remaining reactors (Dragon and SGHWR) and the dismantling of the ALES and Winfrith Sea Pipeline.

We will also continue to work with the site to set and develop their sustainability strategy and seek opportunities to achieve UN Sustainable Development Goals, where these support the Environment Agency 5 year tactical planning for green growth and a sustainable future (EA2025). These in turn help embed the UK Governments 25 year plan for the environment.

Further details of the EA 2025 work can be viewed here:

<https://www.gov.uk/government/publications/environment-agency-ea2025-creating-a-better-place>

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Further details on governments drive towards this ambition are available here:  
<https://www.gov.uk/government/publications/implementing-the-sustainable-development-goals>

We are also working with Magnox to highlight the significant opportunities at Winfrith, and we would like Magnox to work collegiately with other stakeholders and the wider community to achieve an enduring legacy for sustainable development through the decommissioning process.

We will report on progress with these work programmes in subsequent SSG reports.

If you have any comments please contact the Environment Agency Nuclear Regulator through the contact details below.

### **Further Details**

Details of public register records for nuclear sites can be provided on specific request through contact with the EA Customers and Engagement Team in the Wallingford office. Please email [WTenquiries@environment-agency.gov.uk](mailto:WTenquiries@environment-agency.gov.uk). However, a public register service covering the wider (non-nuclear) aspects of the Environment Agency work is also available on the GOV.UK website at:

<https://environment.data.gov.uk/public-register/view/index>

Public register documents may also be requested by contacting the Customers and Engagement Team in the Wallingford office.

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 pages of the Gov.UK website at:

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

Our enforcement and sanctions policy is publically available on the GOV.UK website at <https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-policy/environment-agency-enforcement-and-sanctions-policy>

Public Health England has placed guidance on ionising radiation dose comparisons on the GOV.UK at: <https://www.gov.uk/government/publications/ionising-radiation-dose-comparisons>

The Environment Agency's lead Nuclear Regulator for the Magnox Winfrith site is Adam Davis. Adam is a Radiation Biologist by background, and works within the national Nuclear Regulation Group ((NRG South)), based at the Environment Agency's Wallingford office in Oxfordshire.

NRG (South) undertakes environmental regulation of radioactive substances on nuclear licensed sites in southern England. It works closely with external bodies such as the Office for Nuclear Regulation and local Environment Agency teams that cover other general (non-radioactive substances) environment protection matters such as regulation of groundwater, contaminated land, waste management and water abstraction. Contacts for these activities can be arranged through Adam.

**Contact details**

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