

Environment Agency report

Winfrith Site Stakeholder Group

January 2021

This report covers the Environment Agency's regulation of the Winfrith Nuclear Licensed Site and related issues for the period between March 2020 and January 2021. This extended period is to ensure any issues of interest since the last full SSG may be covered during the Winfrith 'virtual' SSG on January 27th. After this time the report will return to a more regular routine update.

Nuclear site regulation during the Coronavirus pandemic

Throughout the period of the C-19 pandemic, the Environment Agency has remained focussed on the protection of people and the environment. We have set out how we undertake this across the many areas we regulate, advise and interact 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))).

In brief:

- We are fully operational, with the majority of our staff working from home.
- Frontline staff have returned to near normal regulatory work; including undertaking some physical inspections.
- In responding to Covid-19, we have published a series of temporary [regulatory position statements \(RPSs\)](#). RPSs are national arrangements that allow the operator to apply limited relaxations for some specific regulatory requirements, provided certain circumstances and conditions are met. They clearly set out the standards that must be adhered to. The RPSs issued at the beginning of the pandemic have and will continue to be reviewed, and extended or withdrawn as necessary.

For further information on the RPSs, please see our published statement:

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

Radioactive substances regulation

We regulate radioactive waste disposals to the environment. 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 regulatory inspections. Throughout the pandemic period, we have maintained contact with the operator to discuss performance and undertake some virtual inspection type work.

Working with other colleagues within the Environment Agency, we may also regulate and control other activities through our environmental permits, including surface and groundwater discharge activity.

Regulatory compliance interactions are recorded in Radioactive Substances Compliance Assessment Reports (RASCARs). These summarise the type of work we have

customer service line 03708 506 506

floodline 03459 88 11 88

incident hotline 0800 80 70 60

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undertaken, describe any non-compliances or observations of good practice, and include any 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 these types of public register records).

Permitting

Magnox holds two permits under the Environmental Permitting Regulations (EPR) at the Winfrith site: one covers Environment Agency regulated radiological activities on nuclear licensed sites (the 'nuclear' EPR permit); the second covers the discharge of non-radiological aqueous effluent from the site 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 advising Magnox on our requirements for both permits in relation to future applications 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 (normally) through site meetings and inspections. For all inspections we issue Radioactive Substances Compliance Assessment (RASCAR) reports.

We maintain regular dialogue with the operator to ensure we keep in touch with any emerging issues and with progress on actions. We also receive and assess a range of monthly reports from the site.

In March 2020, immediately prior to the nationwide Covid-19 lockdown, we attended the Magnox workshop on the development of options for decommissioning the Winfrith reactors (Dragon and Steam Generating Heavy Water Reactor (SGHWR)) as part of Magnox's plans for the final stages of decommissioning the full site. This is an important area of work which we have continued work on this during the pandemic period.

In response to the Coronavirus pandemic, non-essential operations at the Winfrith site were paused by Magnox, in March 2020. However, we continued to maintain regular (virtual) contact with the site staff to ensure key environmental protection activities were maintained. The site closure was a controlled process and the site provided us with detailed shutdown plans. The plans identified essential permitted activities which would continue, and those operations and activities Magnox would suspend due to potential Covid-19 impacts and resource availability. This included the shutting down of some ventilation systems, and suspending analysis of environmental monitoring samples for the associated period, which we accepted as an appropriate response to the specific circumstances.

Magnox subsequently applied some of the national regulatory position statement options during the latter stages of the pandemic. It applied to use provisions contained in regulatory position statement (RPS) RPS C7 to allow it to suspend environmental monitoring and reporting. The operator did confirm an initial intention to use RPS C10 (which allowed a relaxation to timescales for some reporting requirements), however, they have now resumed near normal operations at Winfrith; and, at the current time, not using any further RPSs.

The RPS statements have now been extended by the Environment Agency until 30th June 2021, as a contingency arrangement, should there be a requirement for a further pause in operations. However, at the current time these are not being utilised at Winfrith.

Prior to restart of operations, we were provided with Magnox's quality plan setting out the site planning for return to work. This document set out Magnox structured approach to the resumption of activities on site. We have accepted the arrangements that relate to environmental compliance; to facilitate return to operations.

Work since the October 2020 SSG report

In November, we reviewed the management arrangements that underpin the sites return to service. We also considered ongoing requirements for manpower resource and equipment, management and training. We found the approach taken by Winfrith to be consistent with their agreed arrangements. We provided advice and guidance on those areas of the plan that were still to be completed. These included planning for subsequent Covid 19 'waves', and maintaining training on environmental compliance issues.

There were no non-compliance issues noted through the inspection and we consider that preparations and restart plans at Winfrith were of good quality.

In December, we attended the site to look at site operations and review forthcoming decommissioning plans. In particular this includes decommissioning of the Active Liquid Effluent System (ALES) and other on-site plant and structures. This aspect of site decommissioning is likely to be a prime focus throughout 2021/22 period.

We continue to hold weekly (virtual) meetings with the Magnox Head of Environment and other Magnox managers to ensure permit compliance and reporting requirements remain fit for purpose during ongoing site remobilisation and in preparation for any further impacts from Covid-19.

We also hold (biweekly) joint meetings with the ONR in relation to the reactor dismantling work at SGHWR and Dragon.

Discharge Reports

The site's environmental permit requires Magnox to use the 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, approximating to 1% of the permitted limit set for the site.

Gaseous discharges also remain compliant and well below permitted limits approximating to between 4-5% of the permitted limit for the site.

Environmental impacts

The site nuclear environment permit requires the operator to monitor and assess the radiological impact of discharges on the environment through the operator's environmental monitoring programme. Monitoring undertaken by the operator, indicates that the

environmental impact from the permitted discharges remains low. During 2021 we will work with Winfrith site to review the operator's environmental monitoring programme to ensure it remains appropriate and reflects subsequent stages of site decommissioning work.

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 2019" (RIFE 25), is published on the GOV.UK website.

<https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

The 25th edition of RIFE is a 262-page evidence-based report containing information on radiation exposures (doses) to the public and radioactivity levels in the environment during 2019. Doses to 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 habits around the sites. It covers radioactivity near to nuclear fuel production and reprocessing sites, research establishments, nuclear power stations, defence establishments, radiochemical production, industrial and landfill sites, and non-nuclear sectors. It also reports on regional monitoring away from these sites - providing a check on background and the residue of fallout from Chernobyl. The webpage also includes a summary report for historical trends.

The report for 2019 continues to show that total doses to the public, from permitted discharges and direct radiation around UK nuclear sites, remained below the legal limit. 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.

In 2019 period, data from RIFE 25 for Winfrith, indicates that the total dose to individuals and members of the public from all pathways and sources of radiation was 0.027 millisieverts (mSv), (this is unchanged from the 2018 report). This total dose from all pathways is considered to be very low and approximates to less than 3 per cent of the government derived national dose limit applied to protect members of the public of 1mSv. Exposures associated with the permitted aqueous or gaseous discharges from the site are also very low and approximate to less than 1% of the of the national dose limit.

Incidents and enforcement

No permitted non-compliant events have been identified during the period of the SSG report.

Forward Look

We have reviewed our annual regulatory programme for the remainder of 2020/21 and re-prioritised our inspection programme to focus on core requirements during this period.

We will also 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). We will also be highlighting opportunities for sustainable development and associated environmental benefits during decommissioning at Winfrith with Magnox. This was reported at a previous SSG and will be further developed through the EA 5 year tactical planning for green growth and a sustainable future (EA2025) to support the UK Governments 25 year plan for the environment. We will report on progress with these work programmes in subsequent SSG reports.

In February 2021, we will undertake a Higher Activity Wastes inspection at Winfrith to assess the management of wastes generated through reactor dismantling and removal of plant and structures from across the site. We will report on this inspection at the next SSG. This is a new style report and we will consolidate its structure through the coming months. If you have any comments please contact the Environment Agency Nuclear Regulator (Adam Davis) 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. 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 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

Adam Davis:

adam.davis@environment-agency.gov.uk

Office Address: Environment Agency, Red Kite House, Howbery Park, Wallingford, Oxfordshire, OX10 8BD
Email: nrg.south@environment-agency.gov.uk