

# Environment Agency Report to the Winfrith Site Stakeholder Group

07 November 2019

## Introduction

This report covers the Environment Agency (EA) regulation of the Magnox Winfrith nuclear licensed site from May 2019 to November 2019.

## Radioactive substances regulation

The Environment Agency regulate radioactive emissions and waste disposals at nuclear sites. We do this through environmental permits that contain conditions and limits aimed at minimising the generation of wastes and protecting the environment. We check compliance with the permit through site inspections and documentation reviews, and assess discharge and environmental monitoring reports submitted to us by the site operators (at intervals specified within their permits). These are recorded in Radioactive Substances Compliance Assessment Reports (RASCAR) detailing our inspections and assessments. Documents entered onto the Public Register <sup>[1]</sup> are available on request (see further information, below).

## Radioactive substances regulation

Since the last Site Stakeholder Group meeting in May, we have undertaken the following site-based inspections; where we have provided advice and guidance in relation to observations at the site:

- Magnox Winfrith aqueous inspection- considering management arrangements for the generation of liquid wastes from site for transfer to the Active Liquid Effluent System (ALES)
- Magnox Winfrith waste management inspection- considering management arrangements and practices for the transfer of wastes (both radiological and conventional wastes) from the site

## Other site meetings

We continue to review progress with the reactor dismantling programme. This includes regular meetings (jointly with staff from the Office for Nuclear Regulation (ONR)) to cover Intermediate Level Waste (ILW) retrievals from SGHWR, and Dragon reactors; and associated treatment and temporary storage before the packages are transferred off site.

We have continued to work closely with the ONR and other stakeholders (Local Authority -town and country planning teams) to develop the wider aspects of site remediation and restoration plans.

In addition, we have met routinely with Magnox to facilitate the development of an appropriate site wide environmental safety case and waste management plan to cover the final stages of decommissioning and to achieve an appropriate interim end state for cessation of activities at Winfrith. This work will help ensure management controls are applied during the generation, storage and disposal of construction and demolition type wastes derived from the removal of buildings on the site (as part of an overall decommissioning plan).

## Permitting

There have been no changes to the Winfrith permit in the period since the previous SSG meeting, and no changes are planned for the immediate period. However, we are working closely with the site to develop the next stages in the sites decommissioning programme. We expect this work to accelerate as the site moves closer to achieving its proposed interim end state.

## Incidents and enforcement

Since the last SSG there have been two events at Winfrith that have been considered to represent a breach of the nuclear site Environmental Permitting Regulations 2016 (EPR 16) permit:

1. Failure of a ducted underground trade effluent pipe serving the dragon reactor and its connection with a pump sump, which pumps effluent for transfer to the Active Liquid Effluent System (ALES). There was no environmental consequence from this event and the effluent was appropriately collected within a secondary containment pipe, designed to provide protection in the event of failure.

The underlying cause of this event was a failure to adequately inspect or maintain the underground pipe as an asset-which was subject to age-related degradation. This was reported at the last SSG in May.

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

We consider that Magnox-Winfrith breached three EPR16 permit conditions under our Environment Agency Compliance Classification Scheme (CCS): relating to procedural requirement to ensure key site based assets are inspected, maintained and managed, and ensuring adequate arrangements using Best Available Techniques (BAT). These were dealt with as one CCS3 and 2 x CCS4, respectively as an event requiring no, or very limited intervention and was dealt with through advice and guidance, provided to the site.

2. A mis-consignment of 88 drums of lower activity solid waste transferred from the site to the East Northants Resource Management disposal facility operated by Augan. Fortunately there were no environmental consequence associated with the consignments and the waste was transferred to an appropriate permitted facility able to deal with the waste without modification to any treatment processes and within the receiving sites existing Waste Acceptance Criteria (WAC).

This error resulted in a failure to provide accurate data in waste transfer documentation accompanying the waste load. As a result, any incident occurring during transfer could have resulted in uncertainty and confusion for the waste consignee or the rescue services. The underlying cause of this event was associated with poor management arrangements and human factors errors.

We considered this to be a failure in arrangements for managing disposals appropriately and with adequate supervision, and a failure to provide adequate paperwork to the driver and receiving site. We have dealt with this under the Compliance Classification Scheme as a CCS3 and 2x CCS4 non compliances. We have also issued a Warning Letter and supported this through advice and guidance, provided to the site.

The root cause factors were also considered to be contrary to regulations administered by the ONR, in relation to the management of activities under the ONR's Nuclear Site Licence conditions and Transport Regulations. We worked jointly with the ONR to enforce our regulations, in common; including attendance at a joint meeting with senior Magnox management to set out our joint expectations for improved waste management arrangements across the fleet. We issued a formal joint enforcement response that contained details

of our Warning Letter and ONR regulatory requirements. This approach has been a valuable experience in communicating joint regulatory thinking in a proportionate and effective way.

Both these events provided important lessons to the site and the wider Magnox fleet on the needs to ensure adequate management of wastes and 'environmental assets'. Magnox response to these have been of a high standard and have identified a range of work packages which will limit the potential for these types of event, in the future.

### **Discharge reports**

Winfrith is required to report liquid and gaseous (atmospheric) discharges to the environment on a quarterly basis. Limits are set in its permit to control the maximum level of radioactivity that can be discharged to atmosphere or to controlled waters over any rolling twelve month period.

Liquid effluent discharged to the sea at Arish Mell from Winfrith via the ALES system 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 2% of the permitted limit for the site.

### **Environmental monitoring**

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 also carry out independent environmental monitoring around nuclear sites.

The data is used to calculate the dose to the public at all nuclear sites in England and Wales.

The results of this work are published in our annual Radioactivity in Food and the Environment (RIFE) report. The latest edition of RIFE (RIFE 24) for the 2018 period has now been published <sup>[2]</sup>.

The environmental reporting from site and corroborated evidence through our independent monitoring, and data presented in the latest RIFE document, indicates that the dose to individuals and members of the public remain very low and broadly similar to previous years. Total dose from all sources was less than 3% (and from permitted liquid or gaseous emissions, approximating to one half of 1%) of the of the national dose limits-set to protect members of the public.

<sup>[2]</sup><https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports>

## Looking ahead

We will continue to work closely with the NDA, other regulators, stakeholders (for example, Local Authority) to assess Magnox plans.

Magnox continues to develop the end state requirements for cessation of activities following the final stages of decommissioning (under the General Requirements for Release of sites from Regulatory controls-during final stages of decommissioning ('GRR') process).

The increased importance in waste management as sites progress through their final stages of decommissioning requires increasing consideration of non-radiological properties of both radioactive and non-radioactive wastes.

The operator will need to consider a number of key integrated issues associated with land and water quality, waste management, groundwater and environmental protection. Many of these issues are complex interactions reflecting the legislative importance and interpretation of different Environmental Permitting Regulations regimes.

## Other News

### Responding to the Climate Emergency

Our EA Executive Director's Team and our Board have now agreed ambitious targets for the Environment Agency to aim to become a 'net zero' carbon generating organisation by 2030. This means that by 2030, we will aim to balance the carbon emissions we produce with those we take out of the atmosphere, to minimise our impact.

This will be a huge challenge. Success will require wholesale change across the organisation in how we do things, and in how we work with others to achieve this. Over the coming months we will be increasing our discussions with the industries we regulate to encourage a UK response to this important work.

## Further Information

A public register service is available on the GOV.UK website at:

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

Alternatively you can request access to public documents directly by contacting the Customers and Engagement Team in the Blandford office. Please email:

[Wessexenquiries@environment-agency.gov.uk](mailto:Wessexenquiries@environment-agency.gov.uk)

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 (South).

Note: Members of the local Environment Agency team cover the site for 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 Davis.

#### Contact details

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