

Environment Agency Report to the Winfrith Site Stakeholder Group

15 May 2019

Introduction

This report covers the Environment Agency (EA) regulation of the Magnox Winfrith nuclear licensed site and Tradebe-Inutec from November 2018 to April 2019.

Radioactive substances regulation

Regulation

We regulate radioactive waste disposals. We do this through environmental permits that contain limits and conditions aimed at minimising wastes and protecting the environment. We check compliance with the permit by site inspections and documentation reviews. Radioactive Substances Compliance Assessment Reports (RASCAR) detailing our inspections, are entered into the Public Register. We also review discharge and environmental monitoring reports submitted to the Environment Agency by the site operators at intervals specified in their permits.

Site inspections

Harwell and Winfrith sites share similar management arrangements and a senior leadership team. Wherever possible, we consider the practices applied at both sites through joint regulatory working to identify opportunities for improved working or good practice.

Since the last Site Stakeholder Group meeting in November, we have undertaken the following site-based inspections:

- Magnox Winfrith Gaseous inspection- considering management arrangements and practices at the SGHWR reactor
- Joint Magnox Winfrith and Harwell environmental capability inspection- considering the breadth of environmental Suitably Qualified and Experienced Persons (SQEP) across both Harwell and Winfrith sites
- Tradebe-Inutec joint inspection with the Office for Nuclear Regulation (ONR)- assessing staff training and SQEP capability
- Tradebe-Inutec Aqueous and gaseous discharge inspection- considering management arrangements

- Tradebe-Inutec-assessment of solid low level radioactive waste management arrangements inspection
- Tradebe-Inutec-review of site waste acceptance and characterisation procedures

Working with ONR, we are reviewing management arrangements relating to the transport of radioactive waste across the Winfrith and Tradebe-Inutec sites.

The extent of environmental (SQEP) resources across both Harwell and Winfrith sites remains an area of ongoing regulatory attention. However, there were no permit non-compliances noted during these inspections and we have provided advice and guidance on observed practices.

We have worked closely with ONR on the regulatory requirements for Tradebe-Inutec to seek an independent nuclear site licence and Environmental Permitting Regulations permit.

We continue to meet Magnox and Tradebe-Inutec and maintain regular review telephone conference calls to discuss site progress and compliance issues at the tenant site.

Other site meetings

We continue to review progress with the reactor programme. This includes regular meetings (jointly with staff from the ONR) to cover Intermediate Level Waste (ILW) retrievals from SGHWR, and Dragon reactors; and associated treatment and temporary storage in the Interim Curing Facility (ICF) 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 the operator to ensure that Magnox-Winfrith develops an appropriate Materials Management Plan to manage the generation and storage of construction and demolition type wastes derived from the removal of buildings on the site (as part of an overall decommissioning plan).

Permitting

In February, we completed the partial transfer of the Magnox Winfrith permit for areas of activity that

will be under the responsibility of Tradebe-Inutec (TI) as a new site licensee. The partial transfer allowed TI site to achieve an independent nuclear site status. This represents some national significance, as the first site to receive a new operational nuclear permit for a number of years.

Incidents and enforcement

In 2018, a retrospective spreadsheet error was reported by Winfrith for waste that was moved in 2017. We reported this at the last SSG in November.

This error resulted in accounting inaccuracies in a small number of waste loads that had been transferred from Winfrith to permitted facilities for disposal. 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).

At the corporate level, Magnox identified the use of calculation spreadsheets as an area of high business risk and is developing a range of measures to protect the integrity of spreadsheets used for accountancy purposes.

The error was considered by the Environment Agency to be attributable to a human factors failure with a member of staff working in contravention to normal operating procedures. However, this was exacerbated by a lack of supervisory control and a failure in system controls reflecting an overall weakness in the operator's management arrangements.

We consider that Magnox-Winfrith breached two permit conditions under our Compliance Classification Scheme (CCS) relating to a requirement to manage site activities using SQEP staff under appropriate supervision, and ensuring adequate procedures and arrangements using Best Available Techniques (BAT). These were dealt with as a CCS3 breach and CCS4 breach respectively as an event requiring no, or very limited intervention.

We are aware of a recent event associated with the failure of a ducted pipeline connection between the Dragon reactor and a pump sump which pumps to the Active Liquid Effluent System (ALES)

The ducting is considered to provide secondary containment and we are not aware of any loss of

liquid from this system to the environment. We have asked Magnox to investigate this and report their findings. The output from this investigation will be reported at the next SSG.

Discharge reports

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

Liquid effluent discharged to the sea at Arish Mell from both Winfrith and Tradebe-Inutec via the ALES system remain well below permit limits, approximating to between 10-11% 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.

The discharges from Tradebe-Inutec remain very low and well within permitted limits, approximating to less than 1.5% of the permitted limit

Environmental monitoring

Winfrith site undertakes a programme of monitoring for radioactivity in the environment. Results from this programme are used to assess the site's impact on the environment.

The Environment Agency carries out independent environmental monitoring, and together with data collected by the Food Standards Agency, is used to calculate the dose to the public at all nuclear sites in England and Wales. Results are presented in the "Radioactivity in Food and the Environment" Report (RIFE)¹. The latest edition of RIFE (RIFE 23) has now been published.

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

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/750730/Radioactivity_in_food_and_the_environment_2017_RIFE_23.pdf

Looking ahead

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

Magnox continue to develop the end state requirements under the GRR process.

The increased importance in waste management as site 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.

The resources required to regulate the Winfrith site during the next phase of decommissioning have increased slightly compared to previous years. This reflects the requirements to regulate compliance, and ensure a safe decommissioning programme as the site proceeds through the final stages of decommissioning.

Those required to regulate the Tradebe-Inutec site have increased more significantly reflecting the requirement to regulate the TI site as an independent nuclear facility.

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 GOV.UK website ^[2].

The Environment Agency's lead Nuclear Regulator for the Magnox Winfrith site is Adam Davis. Tim Fediw regulates Tradebe-Inutec. Adam and Tim are part of 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

Adam Davis:

adam.davis@environment-agency.gov.uk

Telephone: 01258 483418

Tim Fediw:

tim.fediw@environment-agency.gov.uk

Telephone: 0203 025 9772

Office Address:

Environment Agency, Red Kite House, Howbery Park, Wallingford, Oxfordshire, OX10 8BD

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