

Introduction

This report covers the Environment Agency's (EA's) regulation of Oldbury nuclear power station and related issues.

Radioactive substances regulation

Permitting

The Environmental Permitting Regulations were amended in 2013 to take account of the requirements of the Industrial Emissions Directive (IED). One result of this was that small incinerators and oil burners that burn radioactive waste, such as those at Oldbury needed to meet new legal requirements by January 2014.

Magnox subsequently decided that the Oldbury incinerator (which had been out of service since 2012) and the oil burner would not be upgraded to meet the new IED requirements and instead to cease their use. The oil burner was subsequently taken out of service on the 21st December 2013. The site will in future rely on off-site disposal routes for wastes suitable for incineration.

We have initiated a variation to the Oldbury permit to remove the use of the incinerator and oil burner as a permitted activity. We are simultaneously considering requests by the site to change some requirements within the Compilation of Environment Agency Requirements (CEAR) document. This is to take into account changes to gaseous discharge points and types of gaseous discharge following the move from generation to decommissioning.

The permit and CEAR are likely to be reissued early in February 2014 to reflect these changes.

Regulation

We regulate radioactive waste disposals to the environment. We do this through environmental permits that contain limits and conditions aimed at minimising wastes and protecting the environment. We also check

compliance with the permit by making regular inspections at Oldbury. Radioactive Substances Compliance Assessment Reports (RASCAR) detailing our inspections and non-compliances found are put on the Public Register.

Our work at Oldbury has been focussed on the following themes and issues in the last quarter:

- A themed inspection on the management arrangements that the site and the company have in place to demonstrate compliance with their "Radioactive Substances" Environmental permit.
- Assessment of the implications of the Industrial Emissions Directive on the site's oil burner and incinerator.
- Changes to the sampling and monitoring of radioactive gaseous discharges from the site to better reflect end of generation.
- Changes to the environmental monitoring programme for the site to better reflect end of generation.
- Potential changes to liquid discharge arrangements for the period post-cooling of the reactors.
- An oil leak from a transformer on-site

Enforcement

In our November 2013 SSG report we provided details of an event on-site in October 2013 involving an oil leak from a transformer which resulted in some oil entering the River Severn.

We have now concluded our investigation into the event and have subsequently issued the site a Warning Letter on the 9th January 2014. We will be monitoring the site's progress in implementing the planned improvements identified through its own investigation of the event.

Liquid discharges

Historically Oldbury abstracted water from the River Severn to cool the reactors. The need for cooling water for cooling has now ceased due to the reactors ceasing generation and the subsequent reduction in temperature of the reactors. However, the abstraction and discharge of cooling water has continued as it is used to dilute and mobilise discharges of treated radioactive effluent made from the site via a covered culvert to the River Severn.

The recent bad weather led to damage to the cooling water inlet at the site and abstraction of cooling water had to cease while repairs were carried out. The site put in measures to minimise liquid arisings while it assessed the implications of this for its discharges to the River Severn. It subsequently provided us with an assessment that demonstrated that continuing discharges in the short-term without cooling water would result in a negligible difference to the already small environmental impact of the discharges. However, as a precaution the site put in place an enhanced environmental monitoring programme to verify that the impact remains very low.

The site has been planning to install a new pipeline for liquid radioactive effluent later this year and has already undertaken optioneering and dose assessment work to support this (use of this new pipeline would not require cooling water). As the costs of cooling water inlet repairs and operation of the cooling water pumps are significant and the impact of discharges is very low, the site is preparing to make a case to not reinstate the abstraction of cooling water for the period between now and the installation of the planned new pipeline. We will assess this once we have received the report.

An added benefit of not restarting cooling water abstraction will be that the site will not be required to meet the requirements of the Eel Regulations which come into force in 2015.

Discharge reports

The operator at Oldbury is required to report liquid and gaseous discharges to the environment on a regular basis. These reports are placed on the public register and a digest of information is available via the Environment

Agency website's 'What's in your backyard?' facility^[1].

Liquid and gaseous discharges from Oldbury are at levels well within the requirements of its permitted limits. No Quarterly Notification Levels (QNLs) have been exceeded in the period.

Environmental impact

In the site permit we specify a rigorous environmental monitoring programme that requires the operator to monitor and assess the impact of their discharges on the environment. This monitoring demonstrates that the impact of the site on the environment is low.

The Environment Agencies and Food Standards Agency also carry out independent environmental monitoring around nuclear sites. The results of this work are published annually and the latest report "Radioactivity in Food and the Environment 2012" (RIFE 2012) was published in October 2013 on the Environment Agency website^[2].

In the RIFE report, the Oldbury and Berkeley sites are considered together for the purposes of environmental monitoring because the effects of both are on the same area. The RIFE report presents a yearly assessment of radiological dose to the group of people in the local population who are most exposed to radiation from the sites. In 2012, the total dose to this group of people was 0.014 mSv. This is an increase from the figure of 0.006 mSv in 2011.

It should be noted that this is a very low level of radiological dose and is far below the Government Dose limit of 1 mSv/year and even smaller compared to the average annual amount of radiation we all receive from natural sources which is around 2.7 mSv.

The apparent increase in the radiological dose was due to differences between 2011 and 2012 of where the measurements of external radiation took place over intertidal areas (i.e. in 2011 the measurements were taken over mud and salt marsh while in 2012 they were taken over mud/grass). At these low levels of

^[1] <http://www.environment-agency.gov.uk/homeandleisure/37793.aspx>

^[2] <http://www.environment-agency.gov.uk/business/sectors/110281.aspx>

Environmental impact (continued)

radiological dose, small changes in measurements from year to year can lead to what appear to be (but are not) significant changes in radiological dose.

Change in site regulators

The EA's nuclear regulator for Oldbury will be changing in March 2014. Robert MacGregor will be replaced by Peter Reynolds.

Peter joined the Nuclear Regulation Group in 2013. He was previously an EA non-nuclear and process industry inspector for several years and before joining the EA had industrial experience in the nuclear industry.

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 Environment Agency website^[3].

The Environment Agency's Lead Regulator for the Oldbury site is Robert MacGregor. Robert is a Nuclear Regulator and part of the national Nuclear Regulation Group (South) and is based at our Wallingford office.

While his principal office is in Oxfordshire, Robert provides expertise on the environmental regulation of radioactive substances on and from nuclear licensed sites in southern England and Wales. He also acts as the lead Nuclear Regulator for Sizewell A and the RSRL Harwell and Winfrith sites.

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^[3] <http://www.environment-agency.gov.uk/business/sectors/32517.aspx>