Environment Agency Report to the Berkeley Site Stakeholder Group

31st July 2019

Introduction

This report covers the Environment Agency's regulation of the Berkeley nuclear site and related issues for the period May 2019 to July 2019.

Radioactive substances 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 these permits by making regular inspections at Berkeley.

Radioactive Substances Compliance Assessment Reports (RASCAR) detailing our inspections and any non-compliances found, are available on the Public Register[1].

We maintain regular contact with the sites by telephone and e-mail in addition to our formal correspondence and visits to the sites.

Site Regulation

Our work at Berkeley has been focussed on the following themes and issues in the last three months:

- The new site regulators who took over the regulation of the Berkeley site on 1st May and attended the site for a familiarisation visit later that month. This included a visit to the new Modular Intermediate Level Waste Encapsulate Plant (MILWEP) that is currently being outfitted.
- In June, we inspected Berkeley's gaseous discharge arrangements. This involved discussions with site staff, review of documentation and inspecting the discharge sampling points and site laboratories where samples are analysed. We did not find any non-compliances with the permit. We identified a number of observations and recommendations relating to potential improvements in Magnox's procedures.
- In July, the site regulator and a member of the EA Nuclear Waste Assessment Team (NWAT) attended the first Berkeley End States Meeting to engage with the site and other key stakeholders including the ONR and NDA. These meetings will be regular quarterly meetings as the site considers the options and decides on the best course of action.

Permitting

- We have now issued an EA initiated variation to the site permit as a result of our new Guidance on Requirements for Release from Radioactive Substances Regulation (GRR)[2] which sets out our requirements with regard to interim and final end states. A briefing on what GRR is provided later in this report. There were no changes to the existing site discharge limits for gaseous or liquid discharges but there is a requirement for the site to produce a Site Wide Environmental Safety Case (SWESC) and a Waste Management Plan (WMP).

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

[2] For a non-technical summary of this guidance please see: www.sepa.org.uk/media/365894/grr-non-technical-summary.pdf

- As discussed at previous Berkeley SSG meetings, we are expecting to receive an application to vary Berkeley's permit to raise the permitted gaseous discharge limit for tritium (tritium is a radioactive isotope of hydrogen) to 2 terabecquerels (TBq) a year from the current discharge limit of 0.02 TBq. This is to allow for the processing of ILW at Berkeley to produce long-term waste packages for the Geological Disposal Facility (GDF) will lead to additional discharges of gaseous tritium. At the time of writing (24th July) we have not yet received the application.

Events and enforcement

No enforcement action has been necessary at Berkeley in this period.

Discharge reports

Magnox at Berkeley are required to report liquid and gaseous discharges to the environment to us on a regular basis. We assess these to check compliance with the site permits. The site discharge reports and our assessments are placed on the public register.

Liquid and gaseous discharges from Berkeley were well within the permitted limits and notification levels during this period.

Environmental impact

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 carry out independent environmental monitoring around nuclear sites. The results of this work are published in our annual Radioactivity in Food and the Environment (RIFE) report[3].

In the RIFE report the Berkeley and Oldbury sites are considered together for the purposes of environmental monitoring because of the sites' close proximity to each other. The 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 the latest report for 2017 (RIFE-23), the total radiation dose to this group of people as a result of site discharges and radiation shine from the sites was very low at less than 5 μSv/year. This is less than 0.5% of the UK Government's dose limit for members of the public, which is 1000 μSv/year and corresponds to around 0.1% of the UK average annual radiation dose of 2700 micro Sievert per year.

The radiological doses from discharges from the Oldbury and Berkeley to the most exposed member of the public have remained very low over the last 8 years and are expected to remain so.

Guidance on Requirements for Release from Radioactive Substances Regulation (GRR)

What is GRR?

The GRR is new guidance published by the environment agencies in July 2018 (Scottish Environmental Protection Agency, Environment Agency, and Natural Resources Wales).

The guidance is for operators of all nuclear sites, whether or not they have already begun decommissioning and clean-up.

The guidance describes what operators need to do when they are planning and carrying out their work to decommission and clean-up their sites. It sets out clear criteria that operators need to meet throughout the lifecycle of their site in order to be released from radioactive substance regulation (in other words, to surrender their permit) after the conclusion of all activities on the site.

[3] https://www.gov.uk/monitoring-radioactivity

What does the GRR do?

It sets standards for public and environmental protection that are consistent with international and domestic law, guidelines and policies. These standards limit the:

- Level (dose) of radiation people and the environment are exposed to whilst the site is being regulated.
- Risk of exposures to radioactive substances dispersed through the environment after the site is released from regulation.
- Level (dose) of radiation people are exposed to from local concentrations of radioactive substances after the site is released from regulation.

Operators must keep the risks of radiation exposure to people as low as reasonably achievable, taking account of economic and social factors. This is called optimisation. It is a basic principle of the international system to protect people from radiation and it is central to the GRR.

What does this mean for nuclear sites?

The guidance requires operators to:

- Produce a waste management plan.
- Produce a site-wide environmental safety case that demonstrates the environmental safety of the nuclear site as a whole.
- Make sure the condition of their site meets standards for protection of people and the environment, now and into the future.

We are introducing conditions to each nuclear site permit during 2019, which reflect the requirements of the GRR. Operators will then work on developing their Waste Management Plans and Site Wide Environmental Safety Cases over the following few years. The environment agencies will monitor how operators are progressing to ensure the permit requirements are met by the agreed dates.

Optimising waste management

The operator's waste management plan must strike the best overall (optimal) balance between:

- The safety of the public, workers and the environment.
- Other factors such as costs, potential future uses of the site, or the impacts of transport of waste and materials.

Waste management plans must be optimised to each site's individual circumstances. This means that at different nuclear sites it might be optimal to use either one of the approaches below or a mix of both:

- Remove all radioactive waste and contamination from that site and transport it for disposal or treatment at some other suitable site(s).
- Dispose of all radioactive waste and leave all radioactive contamination on that site.

We will only authorise disposal of radioactive waste on a site when we are satisfied the operator has developed an optimal waste management plan, and has satisfied us that the final condition of the site, and the work to be done to reach that condition, are safe for people and the environment. The operator must do this by meeting all the requirements in the GRR.

Stakeholder engagement

The GRR requires the operator to engage widely when developing their developing Waste Management Plan and Site Wide Environmental Safety Case. Local communities, the planning authority and regulators all have an important role in such discussions.

We have engaged with the Office for Nuclear Regulation during the development of the GRR and will continue to ensure joined-up regulation during the implementation phase.

Where can I get more information?

There is a summary and link to the full guidance at:

https://www.gov.uk/government/publications/decommissioning-of-nuclear-sites-and-release-from-regulation

Attendance at the August SSG

We are unfortunately unable to attend the evening meeting on Wednesday 7th August. This is due to industrial action being undertaken by Environment Agency staff over pay[4]. This action includes not undertaking work related travel or engagements outside of normal working hours.

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 section[5] of the GOV.UK website.

The Environment Agency's regulators for the Berkeley site are Sophie Gallagher and Dr Rob MacGregor.

Sophie and Rob are Nuclear Regulators and part of the national Nuclear Regulation Group (South) which is based at the Environment Agency's Wallingford office in Oxfordshire.

The EA's Nuclear Regulators undertake environmental regulation of radioactive substances on nuclear licensed sites in southern England. They work closely with the local Environment Agency teams in those areas as well as external bodies such as the Office for Nuclear Regulation.

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[4] https://www.civilserviceworld.com/articles/news/staff-start-work-rule-campaign-environment-agency-pay-dispute

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