Oldbury Site SSG Report

12 July 2017 meeting

This report covers our regulation of Oldbury Site and related issues over the period April to June 2017

Radioactive Substances Regulation

We regulate radioactive waste disposals to the environment. We do this by placing limits and conditions in the environmental permits that help us ensure radioactive waste discharges are minimised and the environment is protected. We carry out regular checks of Magnox's compliance with our regulatory requirements.

Site Regulation

We check compliance with the permit by undertaking inspections at the site. We prepare Radioactive Substances Compliance Assessment Reports (RASCARs) detailing our inspections and any non-compliances identified. These reports are placed on our public register. In addition to our own inspection activities we routinely review Magnox's reports of events and incidents occurring on site and follow-up on these where appropriate.

We have carried out one site inspection at Oldbury since our last report to the SSG. The inspection assessed Magnox's arrangements for ensuring that there are adequate resources and suitably trained staff at the site. We did not identify any non-compliances during the inspection.

Other notable developments at Oldbury since the last SSG meeting:

Magnox are continuing with work to clean up and decontaminate the fuel cooling pond. The removal of empty (low level radioactive waste (LLW)) fuel skips from the pond has been completed. The skips are being stored at a temporary location on site prior to final disposal off-site;

Magnox is continuing to monitor performance of the R1 and R2 vessel ventilation system, which has been operational since 1 February 2017. Data yielded so far shows lower levels of tritium discharges, than originally expected. However, carbon-14 discharges have slightly increased which was not predicted. Magnox is investigating this and is continuing regular monitoring. We will continue to engage with Magnox on the situation. Discharges of both tritium and carbon-14 remain very low and are a fraction of the levels emitted while the station was operational.

Enforcement

We have not taken any enforcement actions at Oldbury in the period since the previous Oldbury SSG meeting.

Environmental Permitting

We anticipate an application from Magnox to vary the radioactive substances permit to include the new gaseous waste discharge outlets for the R1 and R2 passive ventilation systems. This is subject to the systems being successfully commissioned. We expect to receive this application by the end of August 2017.

We are also anticipating an application from Magnox this year to vary the non-radiological water discharge permit. This will be required to authorise discharges associated with the operation of a proposed reverse osmosis (RO) plant.

Intermediate Level radioactive Waste (ILW) Strategy

We work together with the Office for Nuclear Regulation (ONR) to advise Magnox on regulatory issues of mutual interest. We provide advice to Magnox on the potential environmental considerations associated with its plans to progress the site through decommissioning, including Magnox's proposals for managing ILW at the site.

There have been some developments since the last SSG meeting in relation to the management of ILW:

The current strategy for the treatment of ILW pond skips being stored in the site's cooling pond is to size-reduce the skips in-situ. However, Magnox is considering transferring ILW pond skips to Sizewell A to be size-reduced under water.

Analytical results of Fuel Element Debris (FED) samples taken from the storage vaults in the Reactor Block indicate that this material may be at ILW levels rather than LLW levels. This is different finding from

the analysis of previous samples taken of this material, which identified that it might be at LLW levels. This potentially challenges some aspects of Magnox's FED strategy and Magnox is investigating the results further.

Discharge Reports

Nuclear sites are required to routinely report to us their liquid and gaseous discharges to the environment. We review these reports for compliance and this work is detailed in a RASCAR, which is placed on our public register.

We have reviewed the gaseous and liquid discharge data submitted to us by Magnox for the site for the period of January through to March 2017.

Overall the levels of gaseous and liquid discharges remain low and far below the levels discharged the station was operational.

Environmental Monitoring

We carry out sampling and analysis under our independent environmental monitoring programme, in association with the Food Standards Agency. The results of this work are published in our annual Radioactivity in Food and the Environment (RIFE) report.

The monitoring data for the calendar year 2015 has been published in Food and the Environment report 21 (RIFE 21). The dose to the representative person (the group receiving the highest dose) from radioactivity originating from Berkeley and Oldbury in 2015 is low, at less than 0.005 millisieverts, and is unchanged from the dose in 2014.

The independent monitoring data, indicate that the levels of radioactivity found in the environment remain low and close to background levels.

RIFE 22, covering 2016, is currently in production and is expected to be published in October 2017

In parallel, Magnox is required to carry out a rigorous environmental monitoring programme that requires the operator to monitor and assess the impact of its discharges on the environment.

We reviewed data submitted to us relating to Magnox's programme of environmental monitoring for Oldbury and Berkeley Sites, covering the period October through December 2016.

We received a notification from Magnox in April and that slightly elevated levels of iodine-131 have been detected in a samples of seaweed taken as part of Magnox's environmental radiological monitoring programme for the Oldbury and Berkeley sites.

Elevated levels of this radionuclide have been picked in samples at this location over the years, which lies to the south of the Severn Bridge (M4) crossing.

Iodine-131 is a common product of the nuclear fission process and is also used in medical applications. Iodine-131 has not been produced at Oldbury Site since power generation ceased. The radionuclide has a half-life of around 8 days and we are satisfied that its presence in the environment could not be attributed to operations at the site. A more likely source of the Iodine is one of the local major hospitals which utilises this radionuclide in treatments for conditions such as cancer.

We received a second notification from Magnox in June 2017 that elevated levels of potassium-40 were detected in a seaweed sample taken earlier in the month.

Potassium-40 is a common naturally occurring radionuclide. Its presence in the sample could not be due to previous or current activities at Oldbury or Berkeley.

We make the information from both Magnox's and our own environmental monitoring programmes available on our public register.

Consultation on the UK Advanced Boiling Water Reactor design

We are working with ONR and Natural Resources Wales to assess the design of the Hitachi-GE UK Advanced Boiling Water Reactor (ABWR). This reactor design is proposed for use at a potential new nuclear power station, near to the current station. As part of our consultation on our assessment, we undertook public engagement events which included ones held in Thornbury on 7th and 8th February 2017.

We have now published a compilation of all the responses to this consultation. This is available from the consultation website: https://www.gov.uk/government/consultations/gda-of-hitachi-ge-nuclear-energy-ltds-uk-advanced-boiling-water-reactor

We are carefully considering all the responses to the consultation as part of the process to complete our detailed assessment. We will then decide whether or not to issue a statement, or interim statement, of design acceptability for the UK ABWR. We aim to publish our final conclusions in our 'decision document' in December 2017.

The reactor vendor (i.e. Hitachi-GE) is encouraged to publish detailed design information on its website and update it as new information becomes available. Anyone can view this information and comment on it (see http://www.hitachi-hgne-uk-abwr.co.uk/make_a_comment.html). The design company is required to respond to questions and comments about their design. We are able to see both the comment and Hitachi-GE's response, so that we can consider them in our assessments.

The comments process for the UK ABWR opened on 6th January 2014 and continues throughout our assessment of the UK ABWR until 15 August 2017. We expect to make our decisions on the acceptability of the UK ABWR around December 2017.

The Environment Agency's Lead Regulator for Oldbury Site is Rob Green, based in the Nuclear Regulation Group (South).

NRG(S) is responsible for the environmental regulation of radioactive waste disposals on or from nuclear licensed sites in southern England (and in south Wales, on behalf of Natural Resources Wales). We also work closely with the local Environment Agency teams in Wessex Area in relation to other Environment Agency roles and responsibilities.

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