

## Introduction

This report covers the Environment Agency's regulation of Dungeness A and B sites and related environmental matters.

## Nuclear regulation

Phil Fahey is the lead regulator for the Dungeness A site. Andrew Stone is the lead regulator for the Dungeness B site.

Phil and Andrew both work in the Nuclear Regulation Group (South). Officers from the Kent Area Environment Agency team also visit the site for general environment protection matters such as groundwater, contaminated land, waste management and water abstraction.

We work closely with other regulators such as the Office for Nuclear Regulation (ONR) in areas of common interest.

## Attendance at site

We regulate radioactive waste disposals through environmental permits that contain limits and conditions aimed at minimising wastes and protecting the environment. We check compliance with the permit by making regular inspections. These are recorded on Compliance Assessment Reports which detail our inspections and any non-compliance found; they are placed on our Public Register.

We visited Dungeness A on 1<sup>st</sup> and 2<sup>nd</sup> November 2017.

We visited Dungeness B on 7<sup>th</sup>, 21<sup>st</sup>, 28<sup>th</sup> and 30<sup>th</sup> November 2017. We also attended a planning meeting for the off-site emergency exercise that is planned for next March.

Regular contact is also maintained with the sites by telephone and e-mail in addition to formal correspondence.

## Discharge reports

Both sites are required to report to us liquid and gaseous discharges to the environment and transfers of radioactive waste to other sites on a regular basis. These reports are placed on the public register. Liquid and gaseous discharges from both Dungeness sites remain within the limits set by the Environmental Permits.

## Environmental monitoring

The Operators carry out monitoring of various environmental samples at periodic intervals and report the information to us. Dungeness B staff carry out the work on behalf of both sites. The programmes are slightly different to reflect the radionuclides that are being discharged, the historical discharges and the operational activities taking place at each site.

In addition to the Operators' environmental monitoring programme the Environment Agency participates in an independent UK-wide monitoring programme. The results of these monitoring programmes are published annually and are used to assess the dose received by members of the public in the vicinity of nuclear licensed sites. Radiation doses to people living around nuclear licensed sites from authorised releases of radioactivity were well below the UK national and European limit of 1000 micro Sieverts ( $\mu\text{Sv}$ ) per year in 2015.



## Current regulatory issues

### Dungeness A

We are in regular contact with the Head of Radiation Protection and Environment to ensure that we are kept in touch with progress on actions and any emerging issues at the site. We have been liaising recently with several projects such as the continuation of ponds decommissioning and the commencement of ILW retrieval and processing.

#### Inspection

On 1<sup>st</sup> and 2<sup>nd</sup> November 2017 we had a catch up meeting and performed an inspection on intermediate level waste (ILW) conditioning. There were no non-compliances noted from the inspection and we were happy with the arrangements for ILW retrieval that have been put in place.

We also took the opportunity to look into arrangements following the issue of a warning letter to the Operator for the asbestos segregation event mentioned in the last SSG report. We found the improvements put in place by the Operator to stop further non-compliances at site developing from waste segregation and procedural issues to be satisfactory.

#### Regional waste teleconference.

On 5th October we dialled in to the SE sites waste strategy meeting. This forum discusses with Magnox and the Office of Nuclear Regulation (ONR) radioactive waste strategies for Bradwell, Dungeness A and Sizewell A.

#### Particulates in aqueous waste discharge samples.

We have been liaising with the Operator regarding particulates in aqueous discharge samples. There has been a programme of refurbishment of one of the final delay tanks. This has enabled the site to discharge some aqueous waste through this route. There still remain some issues that the Operator is investigating. The Operator has made one discharge through the fuel element debris dissolution plant whilst the final delay tank route was unavailable. Discharges through the dissolution plant have the same filtering and sampling regime as the final

delay tank discharge route. Area colleagues were involved in the permissioning of this discharge.

### Dungeness B

#### Combustion plant inspection and waste records

We carried out an inspection of the combustion plant at the power station in November. The combustion plant comprises a number of small diesel engines and boilers ranging from 50 kW to 14 MW thermal input. With the exception of two small propane burners the plant burns distillate fuel oil. The majority of the plant provides back-up to systems on the power station and usually only operates for short periods for testing purposes. EDF Energy holds an Environmental Permit to operate and make discharges to the environment from this plant.

During the inspection we examined the plant and equipment, operating procedures, monitoring and emissions, maintenance, waste management and waste records. The plant, equipment and other physical infrastructure inspected all appeared to be in good condition. However, we require further evidence from EDF Energy of its oversight of the waste management contract and that proper records of hazardous waste consignments are being kept.

#### Inspections

In November we carried out an inspection of the liquid radioactive waste disposal system and the active effluent treatment plant. We examined in detail the procedures and records for authorising disposal of radioactive waste to the sea. There were no non-compliances noted from the inspection and we identified areas of good practice, such as the measures to eliminate sources of oil from the effluent treatment system. Dungeness B has identified a number of improvements to the active effluent treatment plant which will be carried out over the next five years.

We carried out an inspection of environmental leadership and management during November. The purpose was to assess the capability and prioritisation given to environmental management and compliance by members of the Senior

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Leadership Team. We were encouraged by the level of commitment shown to environmental safety.

During November we also carried out an inspection of the district survey laboratory at Denge. The laboratory holds some low activity radioactive sources used for calibrating radiation detection instruments.

We also carried out an inspection of the licence to abstract water from the Long Pits Lake.

### Main site oil interceptor

Dungeness B has carried out substantial work in removing accumulated sludge and debris from the main site oil interceptor. This plant plays a key role in preventing oil from being discharged from drains on the site.

### **Publication of RIFE Report**

The annual 'Radioactivity in Food and the Environment' (RIFE) report presents results of the national monitoring programmes conducted by the Environment Agencies and the Food Standards Agency. These monitoring programmes support our regulatory function and provide reassurance that public radiation exposures are within legal limits. The report was published on 19th October 2017 and can be found here:

<https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-2016-rife-22>.

This is the 22nd edition of RIFE containing information on radiation exposures (doses) to the public and radioactivity levels in the environment during 2016. It covers locations near to nuclear fuel production and reprocessing sites, research establishments, nuclear power stations, defence establishments, radiochemical production, industrial and landfill sites, and non-nuclear sites. It also reports on regional monitoring away from these sites, which provides data on background radiation levels.

The report for 2016 shows that total doses to the public, from permitted discharges and direct radiation around nuclear sites, remained well below the legal limit of 1000 µSv per year.

The unit for measuring radiation dose is the Sievert (Sv); 1 Sv is a very large dose. A more convenient unit to use is micro Sieverts (µSv) and 1 µSv is one-millionth of a Sv (0.000001 Sv).

At Dungeness, results showed that total radiation dose (from all pathways and sources of man-made radiation) were similar in 2016 to those reported in previous years:

21 µSv in 2016

14 µSv in 2015

21 µSv in 2014

The dose was slightly higher in 2016 than in the previous year due to increased generation of electricity at Dungeness B and the injection of carbonyl sulphide (COS) in to the reactors as discussed at previous SSG meetings.

For comparison, a typical chest x-ray gives the patient a radiation dose of around 100 µSv and a dental x-ray around 5 µSv.

### **Other News**

#### Regulators approve new nuclear power station design

The UK Advanced Boiling Water Reactor (UK ABWR), designed by Hitachi-GE, is suitable for construction in the UK, the regulators confirmed following completion of an in-depth assessment of the nuclear reactor design.

The Office for Nuclear Regulation (ONR), the Environment Agency and Natural Resources Wales, the regulators who undertake the Generic Design Assessment of new reactor designs, are satisfied that this reactor meets regulatory expectations on safety, security and environmental protection at this stage of the regulatory process.

ONR has issued a Design Acceptance Confirmation (DAC) and the environment agencies have issued a Statement of Design Acceptability (SoDA) to Hitachi-GE. Horizon Nuclear Power is proposing to build and operate two of these reactors at Wylfa Newydd on Anglesey and Oldbury-on-Severn near Thornbury in South Gloucestershire.

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## Environment Agency charge proposals from April 2018

We are holding a consultation seeking your views on the charge proposals which we have developed to take effect in England in April 2018.

The new charge proposals cover:  
Environmental Permitting Regulations 2016;  
Radioactive substances regulation permits;  
Marine licences;  
Waste Electrical and Electronic Equipment Regulations 2013;  
Control of Major Accident Hazard Regulations;  
European Union Emissions Trading System;  
Definition of Waste Services;  
Planning advice.

We also want your views on parts of our abstraction licensing amendments and longer term changes to the way we charge for navigation boat registrations.

Further details are available on the internet:  
<https://consult.environment-agency.gov.uk/engagement/environmentagency-charging-proposals-fromapril2018/>

### Contact details

Mr Andrew Stone  
andrew.stone@environment-agency.gov.uk  
Telephone: 020302 59446

Mr Phil Fahey  
phillip.fahey@environment-agency.gov.uk  
Telephone: 020302 59732

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

### Flood Alert



What it means  
Flooding is possible. Be prepared.

#### What to do

- Be prepared to act on your flood plan.
- Prepare a flood kit of essential items.
- Monitor local water levels and the flood forecast on our website.

### Flood Warning



What it means  
Flooding is expected. Immediate action required.

#### What to do

- Move family, pets and valuables to a safe place.
- Turn off gas, electricity and water supplies if safe to do so.
- Put flood protection equipment in place.

### Severe Flood Warning



What it means  
Severe flooding. Danger to life.

#### What to do

- Stay in a safe place with a means of escape.
- Be ready should you need to evacuate from your home.
- Co-operate with the emergency services.
- Call 999 if you are in immediate danger.

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