



Monitoring radioactivity

Work of the monitoring and
assessment team

A radioactive substances regulation case study

We are the Environment Agency. It's our job to look after your environment and make it **a better place** – for you, and for future generations.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.

Published by:

Environment Agency

Rio House
Waterside Drive, Aztec West
Almondsbury, Bristol BS32 4UD
Tel: 0870 8506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

© Environment Agency

all rights reserved. This document may be reproduced with prior permission of the Environment Agency.

December 2008

Radioactivity has probably been around since the Earth was created. It occurs naturally in our air, rivers and seas, but it is also created by the nuclear and defence industries. Here we focus on the work of our radiological monitoring and assessment team, which continually assesses radioactivity in food and the environment to make sure levels to the public stay below legal limits.

Nuclear sites and other industries can create radioactive waste. If this waste is released into the air or water, radioactivity can enter the environment and the food chain. Radioactive discharges are strictly regulated, and sites producing nuclear waste have to monitor their discharges and their effects on the environment.

The Environment Agency is responsible for ensuring sites comply with the law. Our nationwide independent monitoring programmes are expertly led and managed by our radiological monitoring and assessment team.

The team

The four-strong team of technical advisors is responsible for checking data, establishing long-term trends,

assessing the effects of radioactive releases and discharges. They report on whether levels of radioactivity pose a significant risk to human health or the environment across England and Wales.

We can rest assured that the task is in safe hands. The team brings many years' technical expertise and knowledge gained from scientific and industry.

The team's Jane Rowe heads up the environmental programme. This involves measuring dose rates and concentrations around nuclear sites. She also runs a separate programme to check radioactivity in air, rain and drinking water. Previously Jane worked for 11 years as a university researcher, with particular emphasis on radiological monitoring

techniques and environmental radioactivity.

Nick Leech is responsible for the ‘nuclear sites effluent check monitoring programme’ and the ‘solid radioactive waste check monitoring programme’. Nick worked for 18 years within the nuclear industry, specialising in nuclear materials and radioactive waste. He explains his current role:

“Part of my job is to arrange independent checks on consignments of solid low-level radioactive waste sent for disposal at the low-level waste repository near Drigg in Cumbria. We take it to our waste quality checking laboratory, where we test it to ensure it complies

with our transfer and disposal limits.”

John Titley assesses doses to measure the impact of discharges. He brings a wealth of experience of radiological assessment gained with the National Radiological Assessment Board.

“To assess a dose we have to know what people do, where they live and what they eat. To do this, we carry out a ‘human habits survey’. We then use this information to assess the impact of radioactivity in the environment,” explains John.

As well as measuring the actual effects of releases and discharges, John is involved in predictive



Waste consignment arriving at the Waste Quality Checking Laboratory

assessment.

“Although the nuclear sector has made tremendous strides in reducing its impact on the environment in recent years, the industry still has some difficult challenges ahead as the targets for discharges get even tougher. We use the latest data and scientific evidence to help us make predictions about possible future scenarios and discharge levels.”

The results of the team’s radiological monitoring are collated and integrated with the monitoring results of other organisations, such as the environment agencies of Scotland and Northern Ireland and the Food Standards Agency. These are then published in an annual report, *‘Radioactivity in Food and the Environment’* (RIFE). The team’s Ray Pemberton is responsible for making this happen.

“The report provides an in-depth assessment of radioactivity in food and the environment in the UK and the public’s exposure to radiation. We have just published the 13th report. It shows that no discharges from nuclear licensed sites in 2007 pose a significant risk to public health and that all doses are within legal limits.”

Changes in the air

The team’s role in monitoring and assessing levels of radioactivity and

checking trends has, over the years, had a major impact on tracking reducing radioactive discharges to the environment, protecting ecosystems and human health.

Raising standards

Clearly, the work of the monitoring and assessment team is making a difference, but as John Titley explains, there is always more to do.

“We constantly review and adjust our monitoring programmes to make sure they achieve their aims. We also work in collaboration with others to improve the standards and consistency of monitoring and assessment.”

Further information

For more information about Radioactivity in food and the environment visit www.environment-agency.gov.uk/rife or download our fact sheet <http://publications.environment-agency.gov.uk/pdf/GEHO0908BOKR-e-e.pdf>.

**Would you like to find out more about us,
or about your environment?**

**Then call us on
08708 506 506 (Mon–Fri 8–6)**

**email
enquiries@environment–agency.gov.uk
or visit our website
www.environment–agency.gov.uk**

**incident hotline 0800 80 70 60 (24hrs)
floodline 0845 988 1188**