



Environment, Safety & Health Quarterly Performance Report



Reporting period: 1 April to 30 June 2016

Welcome to AWE's second quarterly performance report for 2016. This document is designed to inform you – the local and wider public – of our management of the environment, safety and health at our sites in Aldermaston and Burghfield. The safety of our employees, our community and the protection of our environment is and will always be our highest priority.

AWE wins silver for Best Event in industry awards

AWE had reason to celebrate after being recognised as an industry leader by the Chartered Institute of Public Relations (CIPR) – in recognition of the well-received community showcase which took place at the Burghfield CSA in the summer of 2015.

AWE received a Silver Award in the Best Event category of the CIPR PRide Awards for the Anglia, Thames and Chiltern region.

The AWE Showcase saw visitors from the local community coming in their hundreds to find out more about AWE's unique mission and history – including speaking to our experts about cutting-edge science, technology, engineering and maths; educational initiatives with local schools and colleges, and how AWE helps to protect the environment.

AWE Showcase project lead, Gemma Jones, said: "The showcase was a great event and it wouldn't be the success it was without the large number of visitors who took time out to come and see us – along with the help and support of the teams right across the business."

A team from Corporate Communications received the accolade on behalf of the business at an awards evening held in Cambridge.

AWE Media and PR Manager, Val Hincks, said: "We were delighted and very proud to receive the award on behalf of AWE and all of our colleagues across the business whose efforts and hard work made the showcase event such an overwhelming success."



Public dose data

AWE monitors discharges of radioactive material from its sites and assesses the impact these could have on the local environment and the public.

The table below shows the rolling annual dose to members of the public from Aldermaston and Burghfield discharges. The calculated doses represent minute fractions of the dose constraint set by the Environment Agency of 500 µSv per year for a nuclear site. The assessment concludes that there is no hazard to the public.

Public Dose Assessment					
Discharge	Aldermaston		Burghfield		Guidance Levels
	Q2 2016	May 2015 to Jun 2016	Q2 2016	May 2015 to Jun 2016	
Atmosphere	0.04 µSv	0.13 µSv	Less than 0.0001 µSv	Less than 0.0001 µSv	500 µSv
Trade Effluent	0.002 µSv	0.010 µSv	N/A	N/A	500 µSv
Aldermaston Stream	0.0001 µSv	0.0003 µSv	N/A	N/A	500 µSv

Refer to list of definitions of units of measurement at the end of this report.

Putting doses into context	Dose in microsieverts
135g bag of Brazil nuts if eaten	5 µSv
Chest x-ray	20 µSv
Transatlantic flight	70 µSv
CT scan of the head	1400 µSv
UK average annual radiation dose	2700 µSv
AWE Key Performance Indicator for Maximum Individual Dose	4000 µSv
CT scan of the chest	6600 µSv
Average annual radon dose living in Cornwall	7800 µSv
AWE Company Annual Dose Limit	10000 µSv
Whole body CT scan	10000 µSv
UK Annual Dose Limit for Nuclear Workers	20000 µSv

How we report incidents on our sites

It is important that we know when things do not go to plan so that we can investigate and put things right. Anyone working on AWE sites or carrying out company business off site are required to capture incidents on a dedicated reporting system. These incidents are referred to as 'Abnormal Events.'

We believe that lessons can be learnt from even the most minor incidents and those lessons can help prevent more occurrences from happening in the future. With this in mind, we also have a system called Assurance Observation Reports which allow people to engage and capture conversations around safety on a daily basis.

How we report on our industrial safety performance

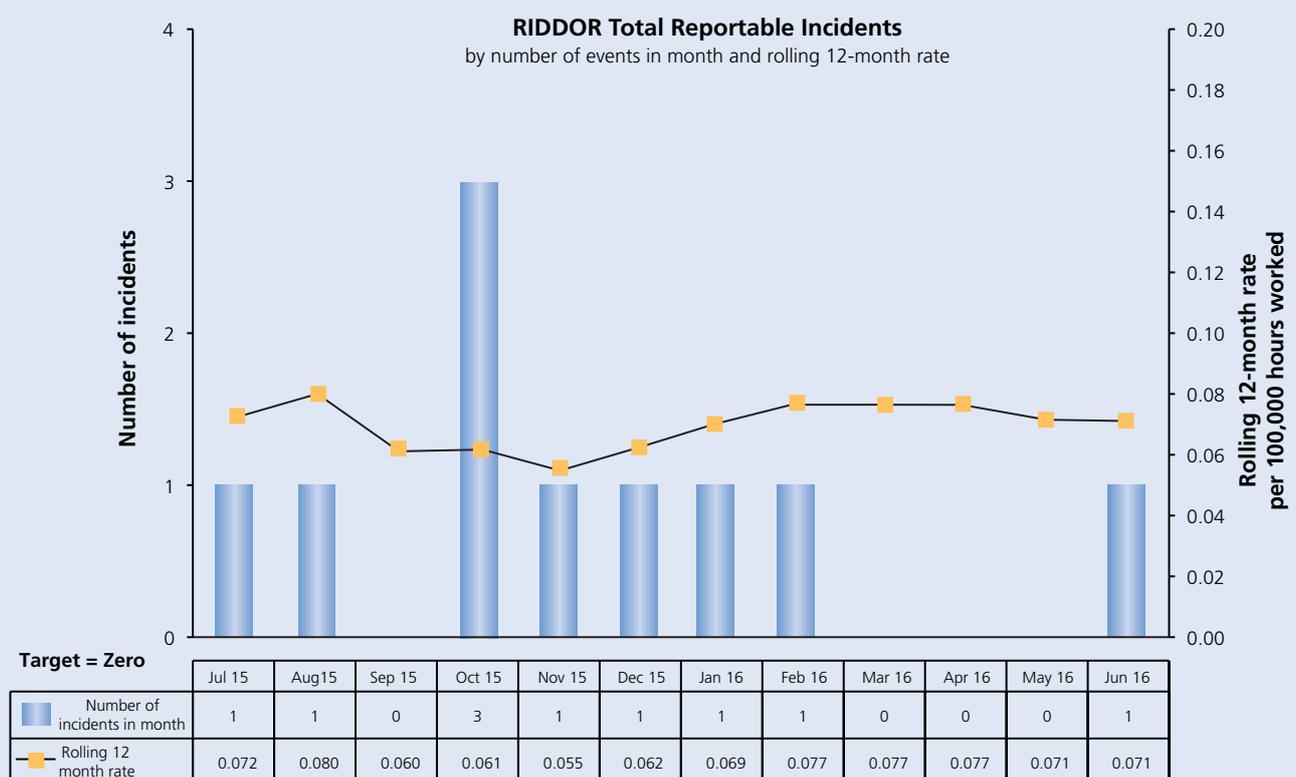
Certain Abnormal Events are automatically reported to the Health and Safety Executive (HSE) under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).

RIDDOR is the statutory legislation that requires employers, and other people who are in control of work premises, to keep records of certain Abnormal Events.

The table under shows the breakdown of RIDDOR reportable events that have occurred on AWE sites during this quarter. The number of RIDDOR events reported during the preceding 12-month period appears in the chart below.

April 2016
No reportable events occurred
May 2016
No reportable events occurred
June 2016
A member of staff tripped and fell on a pavement sustaining a fracture to the elbow Reportable as a major injury

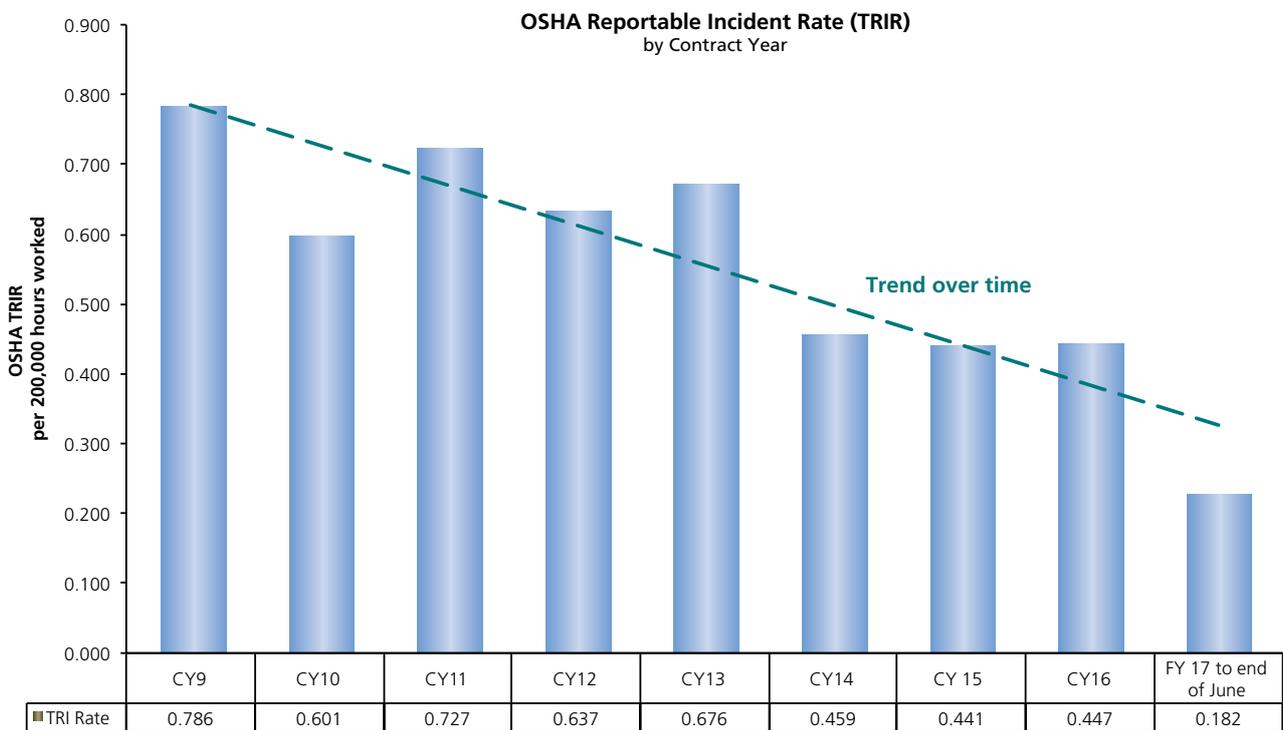
These events have been fully investigated and actions taken to help prevent recurrence.



How we drive improvement in our performance

AWE is committed to a continuous programme of improvement, and as part of further learning we also use the United States Occupational Safety and Health Administration (OSHA) system when applying a classification code to injury and illness related Abnormal Events.

The chart below shows AWE’s performance for all OSHA recordable events by Contract Year.



How we report on our nuclear safety performance

In addition to reporting events to the HSE under the RIDDOR regulations, as a nuclear licensed site, AWE has also set criteria for which incidents must be reported to its nuclear regulator, the Office for Nuclear Regulation (ONR). Events reported to the ONR during the current reporting period are listed in the table on page 5. Where applicable, an indication of the International Nuclear and Radiological Events Scale (INES) rating, given to the event, is also listed.

The INES scale is used by nuclear operators to give a common international standard for comparison of nuclear events; these events are rated on a scale of one to seven. Those coded as ‘zero’ are deemed below the scale and to have had no safety significance.

ABNORMAL EVENT All events occurred at AWE Aldermaston unless specified otherwise	Initial/ Provisional INES Rating	Final INES Rating
April 2016		
During inspection, a hairline crack in a laminated glass window on the glovebox was identified. Surveys confirmed that there had been no breach of containment.	0	0
During pre-operational checks, two interlock temperature thermocouples were found to read ambient temperature. Plant of a similar design has been taken out of service while an investigation is carried out.	0	0
Filter testing of two mobile filtration units was not completed within their required dates. No work was being undertaken in the location during the period.	0	0
May 2016		
During a processing activity, it was suspected that the bursting disc in a tool designed to apply pressure had ruptured. The tool failed in a safe condition.	1	0
June 2016		
No reports were made.		

Protecting our environment

In order for AWE to operate our sites and perform our role in national defence, we are required to hold a number of permits, authorisations, registrations, licences and consents. We have to apply to the appropriate regulators in order to be granted these permits, authorisations, registrations, licences and consents (jointly termed permits).

Environmental events notified to the Environment Agency

All events occurred at AWE Aldermaston unless specified otherwise.

April 2016
<p>The Environment Agency (EA) reviewed AWE's report covering the investigation and source of the elevated tritium recorded on passive samplers at the site boundary. In response to the report, the EA provided a Compliance Assessment Report and cover letter. The Compliance Assessment Report identified eight 'category four' breaches. A category four breach is defined as 'A non-compliance which has no potential environmental effect'. The EA's Enforcement response was detailed both in the letter as 'Advice and Guidance' and a requirement for the AWE Forward Action Plan (supplied in the investigation report) to be fully implemented. The EA will be kept updated via routine meetings with AWE and will track progress of the Forward Action Plan. The status of the Forward Action Plan will be assessed via a Compliance Assessment Report every six months to ensure it is implemented to the satisfaction of the EA.</p> <p>An elevated plutonium result (107 ± 22 nBq/m³) for a High Volume Air Sampler (HVAS) taken between 14 April and 28 April 2016 was recorded from a location within the northern edge of the AWE Aldermaston site. The result exceeded the notification level of 100 nBq/m³ and the EA were therefore notified of the situation. Following investigation, the cause of the elevated result was considered to be due to the resuspension of legacy contamination during decommissioning work in the old waste management area of the site.</p> <p>An elevated plutonium result (110 ± 38 nBq/m³) for a HVAS taken between 28 April and 12 May 2016 was recorded from a location within the AWE Aldermaston site. The result exceeded the notification level of 100 nBq/m³ and the EA were therefore notified of the situation. The event is still under investigation as part of a larger study covering an extended period of time involving the review of data from several HVAS located in the area. Although this has resulted in a delay in closing the investigation, this approach was considered more likely to produce a definitive conclusion.</p>

May 2016

On 19 May 2016, the online telemetry for the surface water monitor at an outfall at Burghfield was checked and showed that two peaks above pH 9 had occurred. An outfall is where surface water that runs off from the site drainage is introduced to a surface water course. The peaks were found to be caused by elevated pH water coming from the Sustainable Urban Drainage System (SUDS) associated with Pond C for one of the new facilities at Burghfield. The penstock valve on Pond C was shut immediately and an investigation initiated to determine the cause of the elevated pH. Following closure of the penstock, the pH on the telemetry at the outfall quickly returned to normal (around pH 7.2). The event was investigated and it has since been discovered that the pH of the SUDS pond can vary from one part of the pond to another (e.g. following heavy rain the water at the very edges of the pond may be a lower pH than the rest). The elevated reading was found to have occurred as result of a landscaping project team closing the penstock valve whilst undertaking works and then reopening the valve after water levels had risen from recent heavy rain. Prior to opening, the pH was recorded at pH 8.32 but as the pond drained this pH changed, resulting in the elevated readings on the telemetry. The arrangements covering the operation of the penstock valve have been changed to reduce the likelihood of recurrence.

June 2016

An elevated pH reading was reported at an outfall located at Burghfield. In the case of AWE Burghfield, the outfall discharges into Burghfield Brook. The EA's in situ pH reading was pH 9.31. The upstream sample was reported at pH 7.76. During investigation, no abnormal activities were reported at the time and there were no known trade discharges taking place which would impact the pH levels. Following investigation, the issue was considered to originate from the build-up and dissolution of cementitious sediments and other debris during a period of low flow and higher temperatures. To minimise the probability of this recurring, a clean-up operation has been carried out.

During a weekly fuel gas analysis check on the site boilers, high levels of carbon monoxide (CO) were detected. Initially CO levels of 175mg/m³ were detected, the permitted CO levels being a maximum of 100mg/m³. A second reading taken shortly after using another calibrated flue gas analyser (to rule out equipment failure) showed that readings had increased to 378mg/m³. The shift engineer turned off the boiler and immediately sought support to address the boiler fault. A service engineer investigated the high CO and traced the fault to one of the burners. A minor adjustment was made to the combustion throughout the range of the burner to ensure improved operation. Subsequently the EA was contacted and a notification was made on behalf of AWE.

An elevated plutonium result (285 +/- 54 nBq/m³) for a High Volume Air Sampler (HVAS) taken between 9 June and 23 June 2016 was recorded at AWE Aldermaston. The result exceeded the notification level of 100 nBq/m³ and the EA was therefore notified of the situation. The event is still under investigation as part of a larger study covering an extended period of time involving the review of data from several HVAS located in the area. Although this has resulted in a delay in closing the investigation, this approach was considered more likely to produce a definitive conclusion.

Waste minimisation

As part of AWE's commitment to protecting the environment, we have a long-term vision to become a zero-controlled waste-to-landfill organisation, details of which are given in the AWE Sustainability Review 2013-15 (available on AWE's website). To that end, there is a drive towards minimising waste and avoiding landfill wherever possible. AWE monitors diversion from landfill, for which a target of 80% has been set for Controlled, and Construction and Demolition waste.

Controlled Waste

Normal operational waste but excluding radioactive (RA), Explosive, and Construction and Demolition

Construction and Demolition Waste

Commonly rubble and soil but excludes Controlled, RA and Explosive waste

Reused

An item to be reused on site, or resold to be reused in its original condition

Recycled

An item that can be broken down and made into something else

Recovered

Where waste is burnt and energy recovered, or waste is used in land remediation

Disposed

Where waste is not reused, recycled or recovered

Below are the performance statistics for this quarter.

	Diverted from Landfill			% Total diverted from landfill	% Disposed
	% Reused	% Recycled	% Recovered		
Controlled	1.7%	47.6%	33.6%	82.9%	17.1%
Construction	0.1%	98.9%	0.9%	99.9%	0.1%

Community concerns

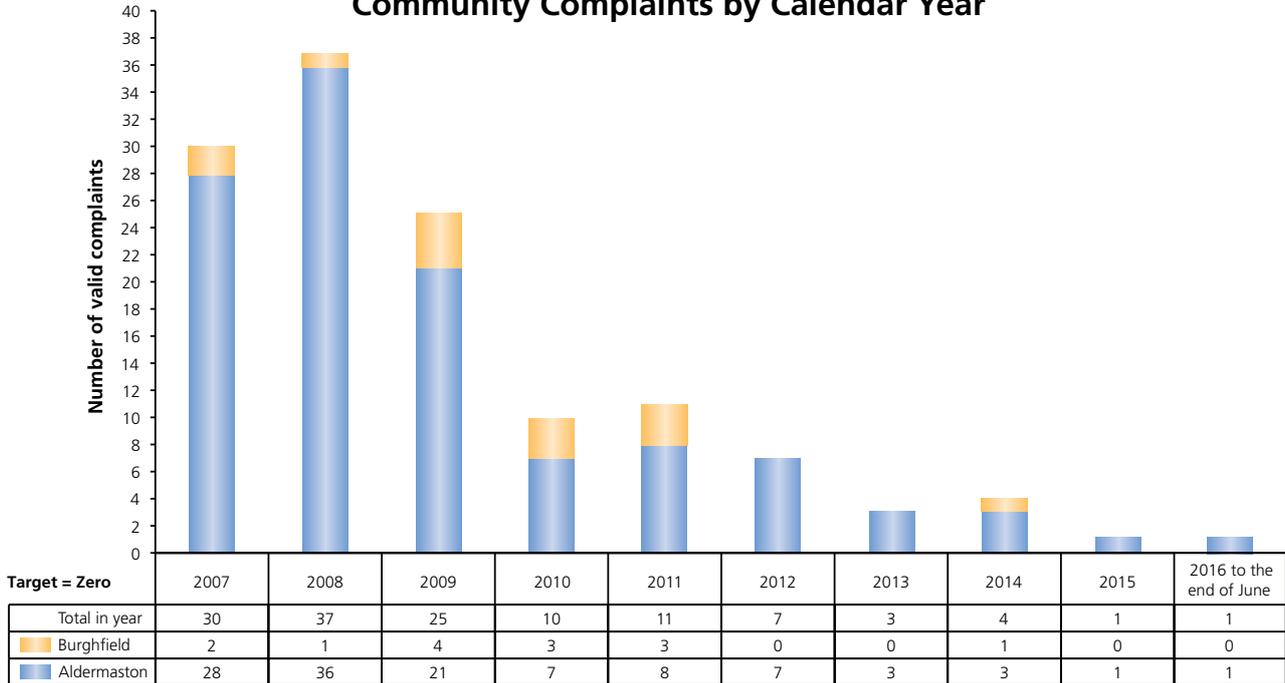
At AWE, we believe in being a good neighbour. It is important to us that people living near our sites have the utmost trust in our organisation.

AWE's process for handling community concerns requires us to respond to them effectively and appropriately on a 24/7 basis. Any concerns raised broadly fall into six main categories: noise, traffic, light, water, pollution and other. A community concern is initially assessed in terms of criteria such as severity, safety implication, complexity, impact, and the need and possibility of immediate action. This includes an assessment to determine whether the concern is a complaint and whether it is associated with AWE operations or not. A community complaint is defined as an expression of dissatisfaction with AWE, however expressed, whether justified or not.

We are proud of the strong relationships we continue to build with the community, and are currently supporting a number of local projects including the Tadley First Responders, and Basingstoke's Shop-mobility. The majority of our circa 6,000 staff and contractors, who are themselves part of the local community, live within a 10-mile radius of AWE.

No corporate complaints were received in the reporting period.

Community Complaints by Calendar Year



For more information, contact: enquiries@awe.co.uk

List of acronyms and definitions of scientific terms:

- AWE: Atomic Weapons Establishment
- Sievert: A measure of radiation dose received by a person
- millisievert (mSv): One thousandth of a Sievert
- microsievert (µSv): One millionth of a Sievert
- Fiscal Year 17: The period from 1 April 2016 to 31 March 2017



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