

Minutes of the 75th AWE Local Liaison Committee Meeting

Wednesday 11th December 2013 at AWE Aldermaston

Present:

Dr Andrew Jupp	MD, AWE Chairman LLC
Cllr Clive Vare	Aldermaston Parish Council
Cllr Dave Shirt	Aldermaston Parish Council
Cllr Marilyn Tucker	Basingstoke & Deane Borough Council
Cllr Roger Gardiner	Basingstoke and Deane Borough Council
Cllr Tim Whitaker	Mapledurham Parish Council
Cllr John Robertson	Mortimer West End Parish Council
Cllr John Chapman	Purley on Thames Parish Council
Cllr Jenny Williams	Silchester Parish Council
Cllr Mollie Lock	Stratfield Mortimer Parish Council
Mr Jeff Moss	Swallowfield Parish Council
Cllr Mike Broad	Tadley Town Council
Cllr David Leeks	Tadley Town Council
Cllr Susan Mullan	Tadley Town Council
Cllr Jonathan Chishick	Tidmarsh with Sulham Parish Council
Ms Carolyn Richardson	West Berkshire Council
Cllr Carole Jackson-Doerge	West Berkshire Council
Cllr Royce Longton	West Berkshire Council
Cllr Irene Neill	West Berkshire Council
Cllr Barrie Patman	Wokingham Borough Council
Cllr Clive Littlewood	Holybrook Parish Council
Cllr Patricia Garrett	Baughurst Parish Council
Cllr George McGarvie	Pamber Parish Council
Cllr David Wood	Theale Parish Council
Cllr Philip Bassil	Brimpton Parish Council
Cllr Gerald Hale	Woolhampton Parish Council
Julie Taylor	Director Environment, Safety, Health & Quality, AWE
Fiona Rogers	Head of Corporate Communications
Carolyn Porter	External Comms & Marketing – LLC Secretary
Michele Maidment	External Comms & Marketing – LLC Administrator
Graham Day	Site Manager Aldermaston and Burghfield
Luke Kingdon	AWE
Claire Perks	AWE
Philippa Kent	AWE
Liz Pearce	AWE
Paul Cooper	AWE
Bob Barclay	AWE

Regulators:

John Lindsay	Office for Nuclear Regulation (ONR)
Stuart Parr	Environment Agency

Apologies

Apologies had been received from: Cllr Stanford-Beale, Cllr Leighton-Jones, Cllr Montgomery, Councillor Gilbert, Councillor Chopping and Councillor Souden

Actions from the last meeting

Action 1/74: Further statistical information on the Skills Academy to be collated and presented at a future meeting. Invitation to be issued. **Action ongoing**

Action 3/74 Julie Taylor and Hadyn Clulow to provide a presentation at the next LLC meeting on Radiological Protection, focusing on high level monitoring and the overview of systems and data. Presentation given at this meeting **Action closed**

Action 4/74 A joint WBC/AWE presentation was offered for a future meeting to look at the ALDEX exercise focusing on agencies involvement and collaborative working. Invitation to be issued. **Action ongoing**

Action 5/72 A specific request from Councillor Gardiner to invite a representative from the local emergency authorities to explain in more detail how they work with AWE. Invitation to be issued. **Action ongoing**

The Minutes of the 74th Meeting were accepted as a true record of the meeting.

Chairman's Update

Andrew Jupp, Managing Director

Membership changes

Dr Jupp advised that Rosemary Williams from Reading Borough Council has decided to step down from the Local Liaison Committee. There have been no other changes in membership since the last meeting.

Business updates

Dr Jupp highlighted two important developments towards greater transparency and openness in reporting: Early last month, the Office for Nuclear Regulation (ONR) published its inaugural Chief Nuclear Inspector's Report, providing an overview of ONR's current independent judgements on the safety and security of the UK nuclear industry. The report is also part of the ONR's commitment to greater openness and transparency. The report confirmed that all defence related sites, including Aldermaston and Burghfield, meet the safety standards required and are working to reduce hazards.

Delivering safe and secure operations is and will always be a core priority for AWE. The Executive team at AWE fully support the ONR's focus on continuous improvement, effective hazard control and maintaining high standards.

AWE's major investment programme includes replacement of existing facilities to maintain capability and tackling nuclear legacy through maintenance and decommissioning. Both reflect the type of improvements in nuclear safety highlighted in the Chief Nuclear Inspector's report.

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This programme is one of the largest and most complex in the UK defence industry with many of its new designs setting the blueprint for future nuclear structures. Given the complexity and uniqueness of some of the challenges associated with this programme the fact that the Chief Nuclear Inspector's report rated AWE's sites as Priority 2 is appropriate.

AWE welcomes independent scrutiny and the help it offers the company in maintaining high standards and improved performance. AWE's commitment to achieving the highest standards is reflected in the stringent internal targets that it sets itself. In many cases these are more demanding than the legal requirements placed upon AWE and monitored by its regulators.

Dr. Jupp confirmed that members are updated on AWE's performance at the LLC meetings and that AWE are now taking steps to improve environment, safety and health (ESH) information to make this more comprehensive and accessible to the public

With this aim in mind a new style Environment, Safety and Health (ESH) quarterly report is in development. (See also Julie Taylor's ESH&Q report section).

MoD Submarine Dismantling project

Dr. Jupp referenced the update given at the last LLC meeting regarding the status of the MoD's selection process for an interim storage site for intermediate level radioactive waste following the dismantling of defueled nuclear submarines. The MOD expects to publish its provisional shortlist soon and will write to local stakeholders directly. This will be followed by a period of engagement with statutory bodies, local authorities and established site stakeholder groups – including an invitation to send representatives to one of two workshops in early 2014. The shortlist of sites will then be finalised.

Full public consultation on the shortlisted sites will be carried out by the MoD at both local and national level (expected to be held during late 2014). The findings and MOD's site selection decisions will be published in a comprehensive report. Subject to further business case approvals, SDP will then contract with the selected site licensee to undertake detailed design and seek planning approval.

Cllr Longton asked what AWE's position was in relation to being considered as a potential shortlisted option.

Dr Jupp responded that as the site operator on behalf of the MoD, AWE is not in a position to seek or refuse being shortlisted.

Chief Scientist

In November, AWE said farewell to its Chief Scientist Professor Peter Roberts who retired from AWE after 43 years. Peter's career achievements include leading and managed the UK underground test programme, the development of the world class Orion laser facility and the instigation of the Centre for Inertial Fusion Science at Imperial College where he holds the position of Visiting Professor. Awarded an OBE in recognition of his outstanding contribution to science and technology – latterly in Plasma Physics - in support of the UK Nuclear Weapons programme, AWE owes a huge debt of gratitude to Peter for his outstanding contribution to science and to the organisation.

The role of AWE Chief Scientist is a significant one. As a key ambassador for the company it coordinates many of AWE's Technical Outreach and external activities both here and abroad. In

addition, it helps to provide independent assurance of the quality and scope of AWE's scientific capability and delivery now and into the future.

Dr. Jupp confirmed the appointment of Professor Andrew Randewich as Peter's successor. Andrew will take on this important role alongside his current Head of Plasma Physics accountabilities. He is also Head of Profession for Physics at AWE, a Fellow of the Institute of Physics and visiting professor at Imperial College. In addition to his exceptional technical leadership Andrew will undoubtedly build on the excellent legacy that Peter leaves behind.

Action 1/75 To extend an invitation to Professor Randewich to attend a future LLC meeting

Celebrate Success

Continuing on the theme of staff achievements, the annual Celebrate Success event took place in November, which recognises innovation and achievement in science, engineering and technology, role model leadership, high performing teamwork as well as outstanding commitment. It celebrates inspirational people who are role models of the AWE values and pays tribute to our outstanding apprentices and those who have given incredible loyalty and service to AWE for over 40 years.

Technical Outreach and Alliances

As part of AWE's ongoing strategic alliance programme with some of the UK's major universities AWE were pleased to welcome colleagues from Cranfield University to Aldermaston for a Technical Showcase event. The organisation has also become a Corporate Member of the Royal Institution one of the oldest scientific bodies in the world, dedicated to educating people of all ages about the world of science.

AWE graduates took part in a three-day event run by Cambridge University to encourage more young people to follow careers in science. Their interactive presentations demonstrated the importance of physics in the real world and won the Students Award for the most inspiring demonstration.

Secondary school pupils in Year 9 visited the Orion laser facility in November as part of AWE's Young Scientist of the Year competition. The organisation also ran an environment competition for primary age children who wrote and presented plays on an eco-friendly theme at the William Penney Theatre. Dr. Jupp extended his thanks to Cllr Lock who supported Julie Taylor, Director ESH&Q on the judging panel.

Action 2/75 In response to a request from Cllr Wood, AWE to make a summary of the Chair's opening remarks available in members' meeting packs.

Environment, Safety, Health and Quality Report

Julie Taylor, Director Environment, Safety, Health & Quality

AWE ESH&Q performance highlights from the past quarter included the:

- The Jacobs Safety Award for a building refurbishment project
- Receipt of the prestigious British Safety Council's Environmental Globe of Honour
- The publication of AWE's Annual Review of Sustainability Report 2011-2012

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- Successful joint inspections with our key regulators; Office for Nuclear Regulation, Defence Nuclear Safety Regulator and the Environment Agency.
- Leading a safety culture workshop at the Submarine Safety Symposium in October

Although year on year safety performance continues to improve, the increase in Occupational Safety & Health Administration (OSHA) recordable incidents during October (7 in total) highlights the need to continue the focus on personal safety awareness.

Our Perfect Day performance has been largely influenced by minor security breaches, the most common of which is incorrect classification of outgoing email. This is closely monitored by our IT systems and correct behaviours reinforced through staff reminders and refresher training.

Update on ESH reporting improvement activity

Management of our environment, safety and health performance underpins all AWE activities and we recognise that transparency about our performance is essential. How we communicate information about our ESH performance to the local community and other external stakeholders is an important part of that process.

A new style quarterly report is being developed drawing on good practice from other high hazard/nuclear sites, covering the areas of Industrial and Nuclear Safety, Environmental protection, including, Discharge Permits and waste minimization, Radiological Protection, Regulatory advice and Community Concerns.

This report will be published on our new website and needs to be accessible and clear to the public at large. To ensure the information it contains is clear and unambiguous, we are asking for volunteers from the LLC to act as a review panel on the report format and content. A meeting will be scheduled with this review panel early in 2014 to take feedback and comments on the working draft.

Key ESH events – next quarter

Paul Cooper, previously Manager Emergency Response, has been recently appointed to lead the next phase of AWE's ESH culture improvement programme. Paul will be invited to a future meeting of the LLC to report on progress.

<p>Action 3/75 Invitation to Paul Cooper to report on next phase of ESH Culture Improvement Programme</p>
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In the coming quarter, Lloyds Register Quality Assurance (LRQA) will be conducting their twice yearly surveillance round and AWE will be publishing its Annual Review of Environment. We will report on the outcomes of both at the next LLC meeting.

<p>Action 4/75 Report on LRQA and EA reviews at next LLC meeting</p>

Cllr Moss referred to the 'Perfect Day' performance and asked about the nature of the work related ill-health or injury requiring treatment above first aid.

Julie Taylor advised many were hand related (cuts, bruises, trapped fingers). A 'hand and glove campaign' is planned to address this.

Cllr Shirt asked about the outcome of the community complaint over noise in the vicinity of the Aldermaston site.

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Graham Day advised that despite concerted efforts to determine the source of the noise this has not been identified. There is to be a further visit to the local resident concerned so that what they are hearing can be measured.

Cllr Robertson, referring to the Public Dose Assessment Data, sought further clarification on the radiation statistics for both sites.

Graham Day confirmed this would be covered in the presentation on RA Protection and Environmental Monitoring later in the meeting.

Infrastructure Report

Graham Day, Site Manager

Graham Day introduced Bob Barclay who has taken over from Paul Cooper as Manager Emergency Response. In his overview of the quarter, Graham also made reference to the British Safety Council

Award which reflected the hard work, effort and co-ordination between AWE Construction Management, its contractors and the Construction ESH Team.

The ALDEX Level 2 exercise went well, confirmed by ONR followed by a recovery exercise at Aldermaston and Burghfield. A wide number of agencies and participants were involved in the 'no notice' testing of the Off Site plan. The recovery exercise covering Aldermaston and Burghfield was only the third or fourth to be undertaken nationally. A report is being prepared by Carolyn Richardson (West Berks Council) who will present a summary to the LLC during 2014. (**See Action 4/74**).

Energy efficiency performance

Improving energy efficiency across both sites continues to be an important focus for AWE. Electricity usage has been stable over recent years through implementing a range of efficiency measures and whilst gas consumption has increased with the construction of new gas fired boiler house at Burghfield, it has displaced the use of heavy fuel oil at Burghfield, with consequent environmental and financial benefits.

AWE is a participant in the Climate Change Agreement Scheme which offers substantial discount on the climate change levy. This involves agreement to voluntary CO2 reduction targets for some key facilities. AWE has achieved a year on year reduction in its carbon footprint with total emissions down from 131,000 tonnes carbon dioxide in 2010/11, to 124,000 tonnes in 2012/13.

Significant progress has also been made following the Environment Agency Enforcement Action with the Agency being kept informed of progress and results via regulatory interface meetings. The requirements of the notice and associated forward actions plans are on track.

The future of the RecSoc remains under review. AWE will look to provide the LLC with more information late 2014/early 2015.

Cllr Wood asked whether AWE is looking at renewable energy sources?

Graham Day confirmed this is very much the case, including for example as a source of power for site street lighting. Solar panels are another consideration, particularly for new structures.

Cllr Shirt raised a concern over the level of light on the Aldermaston site out of hours.

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Graham Day advised lighting studies have been carried out. Security requirements mean both sites need to be sufficiently lit and this makes for a difficult balance between security needs and energy efficiency.

Radiation Protection at AWE

Luke Kingdon, Acting Head of Radiation Protection

Luke presented on the terminology radiological hazards, radiation protection controls, and site monitoring.

Note: A supporting narrative is included with these minutes.

Cllr Wood asked what happens to the filters used in the containment and monitoring process once they have reached the end of their shelf life?

Luke Kingdon responded they are generally treated as radioactive waste and dependent on where they have been used will determine their waste category.

Cllr Shirt asked why the 2012 monitoring results were not available?

Note: The 2012 monitoring programme results are now included in the accompanying slide presentation.

Cllr McGarvie asked how waste is classified between low, intermediate and high level.

Graham Day advised various techniques are used and proposed a presentation on Waste Classification to members at a future meeting. **Stuart Parr** of the Environment Agency offered his support with this.

Action 5/75 A Waste Classification presentation, supported by the Environment Agency, to be organised for a future LLC meeting

Cllr McGarvie raised the question of high-risk employees and how their lifestyle might affect their dosage readings (e.g. CT Scans, X-rays, frequent air travel etc)?

Luke Kingdon confirmed the recordings are occupational and do not take into account lifestyle. This is standard industry practice.

Cllr Shirt asked whether AWE has records of the long term effects and investigates retired staff

Luke Kingdon and Andrew Jupp advised AWE contributes data to the national Register of Radiation Workers which maintains records of all workers.

Radiation Protection at AWE - protecting the public and the environment from disposal of radioactive waste

Claire Perks, Decommissioning Waste Specialist

Claire delivered a presentation covering regulation of radioactive discharges, how AWE protects the public and the environment through, discharge monitoring, environmental monitoring, and dose impact assessment.

Note: A supporting narrative is included with these minutes.

Cllr Shirt asked in which locality milk sampling is carried out, given the reduction of dairy farms in the local area.

Stuart Parr confirmed that there are several local suppliers of milk but he could not confirm their exact location. He will also check whether the EA Habit Survey includes information on the radiation impact monitoring of honey bees in response to a query from Cllr McGarvie.

Ask the Regulator

Cllr Wood asked about the status on the Improvement Notice relating to the Uranium Handling Facility.

John Lindsay (ONR) reported that the Company carried out a routine inspection of one of its buildings during the back end of last year and found significant corrosion in the steel work.

It ceased operations immediately and reported its findings to the ONR who carried out an investigation. The ONR concluded that there had been significant failure to maintain the building, potentially affecting its performance if there were to be an earthquake or seismic event. ONR issued an improvement notice.

*The company made a proposal for work to proceed in May and agreement was given. Though the work is now underway it will not be completed by the end of December. The Company has applied for an extension and ONR are minded to give it. They are working with the Company to grant that extension by the end of the year.**

Any risk to the workforce or the public is minimal as no operations are being carried out in the building.

Andrew Jupp added that this is a 1950s structure which supports AWE's programme, information about which has been imparted at previous meetings. AWE is happy to give a presentation at a future meeting to show the progress it has made.

Note: LLC members were subsequently notified of the ONR's approval to the extension and supporting statement published on AWE's website.

LLC Joint Steering Group (JSG) Update

Councillor George McGarvie

As Chair of the Joint Steering Group, Councillor McGarvie reported on the sub-group's progress. The most recent work carried out by the group involved drafting revised Terms of Reference for the committee and associated Code of Conduct for members. Draft copies were given to members at the meeting with a request that comments should be returned c/o Cllr McGarvie.

The sub-group had also discussed a series of options on what the criteria for committee membership should be going forward. At the meeting Cllr McGarvie fed back the JSG recommendation which was to align Parish Council representation to the areas falling within the Detailed Emergency Planning Zones for both sites.

The discussion that followed highlighted concerns raised by a number of members who felt the JSG proposal would not provide broad enough representation. Members voted not to adopt this proposal. A further recommendation to extend membership to local MPs whose constituencies included both AWEA and B sites was agreed.

Action 6/75 The Chair of the LLC and JSG to revisit the options for future committee membership criteria and bring feedback to the next meeting.

Any Other Business

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Cllr Broad and **Cllr Chishick** raised queries on the percentage of women in the Skills Academy and their performance relative to their male counterparts.

Dr. Jupp confirmed that these statistics would be included in the future presentation on the Skills Academy. **(Ref Action 1/74)**

Cllr Shirt mentioned the amount of litter that has accumulated at the junction with Winkworth Lane **Graham Day** said this would be investigated and arrange for it to be cleared.

Cllr Vare requested that the minutes from the LLC meetings are issued in a more timely manner.

Fiona Rogers confirmed every effort would be made to reduce the time lag between meetings and publication of the minutes.

In relation to the learnings from the ALDEX exercise, Cllr Littlewood would be interested to know more about the impact on both sites and the local communities if faced with a worst-case scenario including in particular how public warnings are handled.

Action 4/74 – to cover this

Cllr Robertson expressed his concern that decisions over the future of the Recreational Society will not be made before late in 2014.

Graham Day advised there are a number of issues that must be taken into consideration but AWE remains committed to providing access to recreational facilities for its staff.

Cllr Wood asked if there is an update from the Pangbourne Pipeline Steering Group.

Fiona Rogers advised that this will be set up during 2014. The remit of the Group will be to ensure the stakeholder engagement approach is scoped, planned and delivered in an appropriate manner.

Radiological Protection Interactive Display

As a follow on to the Radiological Protection presentation, members had the opportunity to see and handle some of the containment monitoring equipment used first hand.

2014 Meeting Dates

Wednesday 26th March – please note change in date.

Wednesday 4th June

Wednesday 17th September

Wednesday 17th December

Carolyn Porter
LLC Secretary

Radiation Protection

Radiation is all around us, occurring naturally in everyday objects, from the soil beneath us and from space above us. AWE is responsible for keeping exposure to radiation from the materials we work with as low as reasonably practical to protect the environment, our employees and the public.

Why radiological protection is necessary

AWE employs expert radiation protection advisors and health physicists, whose job it is to provide advice on protecting people from radiation. They ensure the company remains compliant with all relevant radiation protection legislation, and we strive to be industry leaders.

Types of radiation

There are many types of radiation, with the most common being: alpha particles, beta particles, gamma rays, X-rays and neutron radiation.

Alpha particles are most hazardous if inside the body, but they can be stopped from entering the body by the skin or a piece of paper.

Beta particles are less hazardous, but can also be harmful if inside the body.

Gamma and X-rays are electromagnetic (EM) waves and although less hazardous, can travel through most materials and require special shielding.

Neutron radiation is another form of ionizing radiation. The level of hazard is dependant on the energy, but like gamma, can travel long distances and requires special shielding.

Radioactivity in any material is measured in Becquerels. Radiation deposited in the body is measured in sieverts. A thousand millisieverts (mSv) is a sievert.

We deal with three main radiological materials at AWE

Plutonium is a man-made element and poses the most significant health risk if inside the body. The primary hazard is the alpha radiation produced, but plutonium also produces gamma and neutron radiation.

Uranium is a heavy metal which is widely found, naturally occurring in the environment. Low levels of uranium can be found within most rock, soils and water. Uranium is not as hazardous to the body as plutonium. Apart from its radioactive properties, uranium is also chemically toxic as a heavy metal poison.

Tritium is a form of hydrogen but unlike hydrogen it is radioactive. It emits weakly penetrating radiation in the form of beta particles. Being only weakly radioactive, tritium is only considered to be hazardous at high concentrations.

The levels of exposure to radiation at AWE are typically very low. Public exposure to radiation as a result of AWE's discharges is less than 0.001 mSv. The UK average annual background radiation dose is 2.7 mSv.

Protecting our staff and the public

AWE is regulated by the Office for Nuclear Regulation, the Environment Agency and other agencies on how we handle and dispose of our radioactive materials.

AWE employees, the public and environment are protected using many layers of protection, much like the layers of an onion. If any one layer were to fail - there are many more levels of protection to restrict exposure.

Environmental protection and monitoring

AWE controls and monitors discharges of radioactive waste to the environment. One of the key pieces of legislation that applies to AWE sites in this area is the Environmental Permitting Regulations, which cover not only activities associated with radioactive substances but also other activities with the potential to harm the environment such as land filling.

Why this is important

When issuing permits for the discharge of radioactive waste to the environment, the Environment Agency ensures that exposure of any member of the public to radiation **does not** exceed dose limits.

The permit specifies what we are allowed to dispose of as well as where we are allowed to dispose of waste. There are also annual limits on our disposals as well as notification levels, which require us to inform the Environment Agency if we exceed them.

Our own dose limits are far lower than those stipulated by our regulators.

Disposal routes

AWE is permitted to discharge radioactive waste into water and air.

AWE disposes into water through the trade waste treatment plant, liquid effluent treatment plant and the North Ponds water management system.

The company disposes into air via authorised airborne discharge points known as 'stacks.'

In addition to staying within the limits, AWE also uses best available techniques and further reduces radioactive waste as part of our responsibility to the public and the environment. This includes further control measures to concentrate and contain the contamination.

How we monitor our discharge levels

Air is generally sampled as it is released via the stacks.

Water that is discharged from the liquid effluent treatment plant is monitored before it is released. We also collect samples from the holding tanks at North Ponds prior to discharge to the Aldermaston stream. We conduct comprehensive environmental monitoring. This includes air samplers at nine locations off site, soil and vegetation sampling on site and at five locations off site, and local milk sampling and groundwater sampling.

The annual dose level from discharges at AWE Aldermaston and Burghfield is currently less than 0.001 mSv. Comparatively that is one fifth of the dose impact of eating 135g of Brazil nuts.

The below table shows some examples of common radiation doses compared to AWE dose limits.

<ul style="list-style-type: none"> • 135g of Brazil nuts if eaten = 0.005 mSv • Chest x-ray = 0.02 mSv • Transatlantic flight = 0.07 mSv • AWE investigation level (staff) = 0.25 mSv • CT scan of the head = 1.4 mSv • UK average annual radiation dose = 2.7 mSv • Average annual radon dose living in Cornwall = 7.8 mSv • AWE dose limit (staff) = 10 mSv • Whole body CT scan = 10mSv • Annual UK exposure limit for employees = 20 mSv
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