

FILE NOTE

To: [REDACTED], HM Principal Inspector of Nuclear Installations, 3·2
Redgrave Court, Bootle.

From: [REDACTED] Fire Surveyor, [REDACTED]

Date: 3 August 2007.

Re: Flood-related Fire Alarm Defects – AWE plc, Burghfield.

[REDACTED]

Following your e-mail of 2 August, and our telephone conversation later that day, concerning the state of Fire Alarm systems at AWE, Burghfield, I have made enquiries into the situation and can report the following to you, as Site Inspector, for your information:

As part of my enquiry, I spoke with [REDACTED], AWE(B) Licensed Site [REDACTED] [REDACTED] (reporting to [REDACTED]) about the sites' fire alarm systems and the arrangements put in place to deal with their temporary outage.

On the morning of Friday 20 July 2007, torrential rain began to fall across Berkshire. The Burghfield area was especially affected and by about 2.30pm that day, the unprecedented water run-off from the surrounding fields began to cause flooding on the AWE licensed site, with some buildings being inundated to a depth of between 2 and 3 ft. As the situation deteriorated, AWE made the decision to progressively close down those buildings most affected, in a controlled manner, to bring premises to a planned, 'Safe' state. This was executed in an organised manner, and included the deliberate shutting down of electrical supplies to individual properties. As a result, all electrically powered systems were inoperable. Eventually, this shutdown was virtually site-wide. The clean-up operation commenced at the earliest opportunity.

[REDACTED]

[REDACTED]

During this period, AWEs' Recovery/Facilities Management Team instituted a system for ensuring the safety of buildings, personnel and contents from the time when even the Alarm standby batteries would be expected to fail.

Fire-Watch Patrol rotas were implemented across the site. Those previously 'occupied' buildings were watched and patrolled by their own occupants; 'unoccupied' buildings were similarly Fire-watched by Security staff and AWEs' own on-site Fire Service. These continued until each buildings' fire alarm was reinstated. The arrangements are reported as being effective, with no fire incidents to record.

All buildings were subjected to a clean-up operation, and were progressively recommissioned at the earliest opportunity, including electrical supplies to services.

AWE Burghfield benefits from its own Senior Approved Person responsible for fire alarm systems. He was able to confirm that the final building fire alarm to be reinstated occurred on Friday 2 August, some 14 days after the floods.

As we now know, the weather conditions experienced by some parts of the UK that July weekend were quite unique, resulting in widespread flooding across huge areas of the country. Indeed, many districts were without mains electricity due to power stations and sub-stations being flooded. Due to the special nature of the business of AWE(B), it is understandable that they took the decision to shut down their own power systems in a controlled and organised manner, to ensure safe conditions of their making. The resultant disabling of Fire Alarm systems does not, I believe, indicate a defect or failure of a Fire Risk Assessment.

As previously mentioned, the current British Standard for Fire Alarms asks for standby capability of 24 hours. This is based on the expectation, stated within the BS, that mains power outages in the UK "are relatively short in duration, and prolonged failures exceeding 24 hours are uncommon". Only where power outages are expected to occur and last more than 24 hours should increased standby capacity be provided. As most professional commentators appear to indicate that these weather conditions were extremely rare, the 24 hours standby seems reasonable, and in conformity with the BS.

As an alternative to a functioning Fire Alarm System, the Fire-Watch arrangements that were implemented worked well. This provided a physical presence in buildings whereby staff could detect fire (the human nose is still one of the best detectors about), summon assistance (mobile phones were still operable) and fight the fire if necessary. Traditionally, there have been many occasions and many reasons whereby local Fire Enforcing Authorities have accepted Fire-Watches as a temporary arrangement in premises. It also has the added benefit of making personnel much more 'fire aware'.

If it is the case that AWE(B)s' Fire Risk Assessment expects its buildings and premises to be so totally disabled in a similar manner in the future, then it would be reasonable to expect them to source the most robust of standby power sources for its fire alarm panels, to cater for mains outages. This would be highly problematical and extremely expensive, to achieve coverage for, for example, 14 days. If, however, we accept the

case that the weather conditions which caused the situation at AWE(B) were a 'one-off', then the arrangements which were implemented as a consequence seem reasonable in the circumstances, and I would not be minded to recommend any formal action as a result.

I would be very pleased to accompany you to site, as mentioned in your e-mail. It would be an opportunity to have a look at what particular fire alarm systems are in place, the nature of the risks they protect, their maintenance and servicing arrangements, and what lessons AWE learned from the situation.

[REDACTED]

I trust that the above is of use, but do please call me if there is anything you would like to discuss.

Regards

[REDACTED]

Fire Surveyor

[REDACTED]

[REDACTED]

**HEALTH AND SAFETY EXECUTIVE
HM NUCLEAR INSTALLATIONS INSPECTORATE**

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1.	VISITING OFFICERS	Name(s)				
		[REDACTED]	all			
		[REDACTED]	8.3.3			
		[REDACTED]	8.3.5			
2.	DATE(S) OF VISIT	7 th – 9 th August 2007				
3.	SITE AND LOCATION OF VISIT	AWE, Burghfield				
4.	PURPOSE OF VISIT -					
SIR Paragraph	Inspection details (including operating unit / building)	Plan Name	Div 3 IIS Code	LC / Topic	Outcome Rating	
8.1	<u>Planned inspections</u> None carried out					
8.2	<u>Reactive inspections</u> None carried out					
8.3	<u>Licensees Project Related work</u>					
8.3.1	Meeting on engineering status of plant following flood					
8.3.2	Meeting on remediation following flood					
8.3.3	[REDACTED]					
8.3.4	[REDACTED]					
8.3.5	[REDACTED]					
8.4	[REDACTED]					
8.4.1	[REDACTED]					
8.4.2	[REDACTED]					
9.0	[REDACTED]					