

# Office for Nuclear Regulation

An agency of HSE

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PS/ C Hendry	-	DECC
Rt Hon Chris Grayling	-	Minister for Employment
PS/ J Marland	-	DECC
PS/ C Spelman	-	DEFRA
PS/ A Salmond	-	Scottish Exec.
Mr S Virley	-	DECC
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Mr I Johnson	-	DECC
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Mr N Baldwin	-	ONR
Mr G Podger	-	HSE
Ms S Sykes	-	HSE
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Mr D Jordan	-	EA
Dr J McHugh	-	EA
Dr J Gemmill	-	SEPA
Mr C Imrie	-	Scottish Exec.

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## Hartlepool

The High Pressure Back Up Cooling System provides post trip cooling to the boilers in the event of loss of normal boiler feed water. The system has three diesel driven pumps that draw water from dedicated HPBUCS tanks through a common suction header. This suction header can be isolated by closing a valve in the event of damage to the dedicated tanks and feed lines to allow the pumps to be fed from the Reserve Feed Tanks (RFTs). Under normal operation, it is a requirement of the Technical Specifications that this valve is fully open.

On 22 February 2011 flow tests revealed that a valve was not fully open and therefore all three HPBUCS pumps were declared unavailable. This represents a reduction in the diversity of the cooling systems and the Technical Specifications require the reactors to be shut down within 4 hours.

In response to this event BEGL switched the feed supply to the RFTs within 20 minutes thus avoiding shutting down the reactors. The Valve was returned to the fully open position shortly afterwards.

BEGL has carried out a full and prompt investigation into this event and this has addressed the wider aspects of this event including the level of maintenance and subsequent testing on this valve and similar valves on other systems. BEGL is currently completing remedial actions to address the findings.

ONR has carried out its own investigation. Our preliminary conclusions are that the licensee's investigation was thorough and that it has identified the root causes of this event and extended the findings to other systems that may have single point vulnerabilities. In addition BEGL has placed actions to ensure that valve indications are robust, that maintenance standards are adequate and return to service testing demonstrates that safety related plant will deliver its safety function. ONR is currently monitoring the Licensee's progress on closing out the actions from the investigation

**Single copies of statements are available free from the Office for Nuclear Regulation, Division 3, Building 4.N2, Redgrave Court, Merton Road, Bootle, L20 7HS, Tel: 0151 951 3484.**



## Torness

Tritiated effluent arises as part of normal reactor operation, and it is collected in tanks which are safely discharged periodically to sea, via the site liquid effluent discharge culverts. These discharges are authorised under the site discharge authorisation, issued by the Scottish Environment Protection Agency (SEPA).

BEGL reported on 21 February 2011 that an elevated level of radioactivity was detected during routine sampling of a groundwater sampling borehole on the site. This led to an investigation, which suggests that the source of the activity is likely to be leakage from two flanges in tritiated effluent discharge lines 1&2, which lead from the tritiated effluent tanks to the discharge culverts.

The licensee has reported that the activity levels detected in the borehole samples is very small, and in the sump of the secondary containment for the discharge lines it is less than 0.1% of the activity level of the liquid authorised for discharge.

On discovery of the elevated activity levels, BEGL suspended use of the affected discharge lines until measures to prevent further leakage were put in place, and interim operational safety improvements were implemented. Following their remedial work, they have produced a safety case to allow further use of the lines until their investigations are complete.

ONR carried out with SEPA a joint inspection of the event, which found that the licensee's initial response to the event has been appropriate. However, letters from ONR and SEPA have been sent to Torness requesting further information relating to the circumstances of the event and their proposed response in the longer term.

Currently, we await completion of the licensee's investigation and a response to the regulators' letters, and in the interim will continue to monitor the outcome from further use of the site tritiated effluent discharge lines.

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## Sellafield

During a routine inspection on 2 February 2011, Sellafield Ltd found a small pool of approximately 25 ml of a brown liquid underneath the lowest point in a ventilation duct in the redundant Plutonium Purification Plant (a legacy plant). It was discovered in an area designated as having low levels of contamination. The facility had been emptied of redundant plant pending final decommissioning. The ventilation system is safety related; it is required to support containment, by preventing the movement of radioactive material from areas of high contamination.

Sellafield Ltd's analysis has confirmed that the liquor contained plutonium at a concentration that exceeded the statutory limit of Schedule 8 of the Ionising Radiation Regulations (1999) by a factor of about 5.

We have investigated the incident and we are satisfied that neither the public nor workers were adversely affected by the incident. We are content that the incident was properly reported, the contamination correctly analysed and safely cleaned up, and that Sellafield Ltd carried out an appropriate internal investigation that identified the cause of the event.

Sellafield Ltd has confirmed that contaminated condensation leaked out through a gasket in a joint in the ventilation system, which was designed about 20 years ago. The incident has highlighted a number of shortfalls in the design of the ventilation system and the company is currently taking action to address these.

We have judged this incident against HSE's Enforcement Management Model and concluded that no further enforcement action is necessary. However, Sellafield Ltd does not intend to finish decommissioning this plant until 2058 and we are pursuing the development of a safety case that takes account of this incident to underpin its continued safety throughout this period.



## **Quarterly Statement of Nuclear Incidents at Nuclear Installations**

A statement on incidents at nuclear installations in Britain which meet Ministerial Reporting Criteria (MRC) is provided to the Secretary of State for the Department of Energy and Climate Change and the Secretary of State for Scotland, and is published each quarter by the Office for Nuclear Regulation.

For the period 1 January 2011 to 31 March 2011 there were 3 incidents at licensed nuclear installations, which met the MRC, and reports are provided below.

Investigations are still ongoing into another incident and an update will be provided in the next report.

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PS/Secretary of State for Energy and  
Climate Change

PS/Secretary of State for Scotland

18 April 2011

## STATEMENT OF NUCLEAR INCIDENTS AT NUCLEAR INSTALLATIONS

I enclose the Statement of Nuclear Incidents at Nuclear Installations for the Period 1 January 2011 to 31 March 2011. During this quarter there were three incidents at civil licensed nuclear sites that met the Ministerial Reporting Criteria.

Reports on all three incidents are provided in this statement.

There is another incident that was reported in this quarter that is being investigated. This was a small area of contaminated ground, thought to be potentially up to 50 years old and may meet the Ministerial Reporting Criteria. An update will be provided in the next report.

Please note the statement will be published during week commencing 18th April 2011.

As always, I am available to discuss the report or other matters relating to the safety of the UK nuclear industry or its regulation.

Yours sincerely



**Dr Mike Weightman**  
HM Chief Inspector of Nuclear Installations  
and Executive Head of ONR