

Notice of variation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

BAE SYSTEMS Marine Limited

BARROW SHIPYARDS NUCLEAR
SITE
BARROW-IN-FURNESS, CUMBRIA
LA14 1AF

Variation notice number
BU6808/CD9259/V002

Permit number
BU6808/CD9259

BAE SYSTEMS Marine Limited
Barrow Shipyards Nuclear Site
Permit Number BU6808/CD9259/V002

Introductory note

This introductory note does not form a part of the notice.

The following notice gives notice of the variation of an environmental permit.

Carbon-14 (14-C) results from the activation of oxygen and nitrogen within the primary coolant of the primary circuit of the submarine reactor plant. In 1999 Carbon-14 was found to be present in radioactive wastes from the Devonport Royal Dockyard in Plymouth. Similar operations to those at Devonport (i.e. those involving submarine reactor plant and the generation of aqueous radioactive wastes) also occur at the Barrow Shipyard Nuclear Site, although at a much smaller scale. When the issue of Carbon-14 content from submarine radioactive wastes emerged in 1999, there was limited scope for quantification of the issue at Barrow because the Vanguard-Class submarine build programme was in its final year. A sample of post-critical primary coolant from the final Vanguard-Class boat was taken, analysed and found to contain a low concentration of Carbon-14. BAESL also noted that they had detected small amounts of Carbon-14 within legacy ion exchange resins utilised in the treatment of liquid wastes across the Vanguard build programme. This was considered as part of the Environment Agency's detailed review of the BAESL permit to dispose of radioactive wastes which began in July 2001. The review included consideration of predicted future waste disposals from the Barrow Shipyards. When the new multi-media permit was issued in May 2004 it included an improvement requirement (Schedule 7) for the sampling and analysis of Carbon-14 during commissioning of the first Astute boat. This was to facilitate a re-evaluation of the liquid discharges generated at Barrow during the Astute-class build and commissioning programme. It was agreed at this time that, if required, the operator should apply for a minor variation to their permit to set discharge limits for Carbon-14 to an appropriate level.

The improvement condition has now been completed by BAESL and it has confirmed that the current liquid discharge limits for "other gamma emitting radionuclides" (the non-tritium component), cannot accommodate the potential projected discharges of Carbon-14 in aqueous wastes from the Astute-class programme. Consequently, BAESL have applied for a new stand-alone limit. This variation will establish an Annual Limit of 27MBq and Quarterly Notification Limit (QNL) of 6MBq – this is for the discharge of Carbon-14 in aqueous radioactive waste to the sewer, via the Waste Treatment Facility (WTF), the existing disposal route for aqueous radioactive wastes from the Barrow Shipyards Nuclear Site.

The Schedules specify the changes made to the permit. A varied environmental permit, reflecting the changes made to the permit, has been issued.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status Log of the permit

Detail	Date (Issued/Effective)	Response Date
BU6808/CD9259	14-12-2009 / 21-12-2009	
Variation application letter and EPR application forms A, F, C3 from BAESML	23-07-2010 & 08-09-2010	
Variation BU6808/CD9259/V001	17-09-2010 / 24-09-2010	
Variation BU6808/CD9259/V002	19-07-2011 / 26-07-2011	

End of Introductory note

Notice of variation

Environmental Permitting (England and Wales) Regulations 2010

Permit number

BU6808/CD9259

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies the environmental permit issued to

BAE SYSTEMS Marine Limited ("the operator")

whose registered office is

**Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hampshire,
GU14 6YU**

company registration number 00229770

to carry on radioactive substances activities at

BARROW SHIPYARDS

Barrow-In-Furness, Cumbria

LA14 1AF

to the extent set out in the Schedules.

The notice shall take effect from 26/07/2011

Name

Date

 Mr Stephen Hardy	19/07/2011
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Authorised on behalf of the Environment Agency

Schedule 1: variations to the permit

The following conditions were varied on the application of the operator:

A.1 Schedule 4 of permit BU6808/CD9259/V001 is amended as follows:

- (i) Table 2 is replaced with the following:

Table 2

Radionuclide or Group of Radionuclides	Annual Limit, GBq	Quarterly Notification Level, GBq
Tritium	12	4
Carbon-14	0.027	0.006
Other gamma emitting radionuclides	0.0035	0.001