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Fred W P Dawson

via: [request-172609-xxxxxxx@xxxxxxxxxxxxxxx.xxx](mailto:request-172609-xxxxxxx@xxxxxxxxxxxxxxx.xxx)

Our Reference:  
12-08-2013-101543-002

Date: 8 November 2013

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Dear Mr Dawson,

Further to my letter of 4 November, I am now in a position to provide you with a substantive response to your request, in which you ask for additional information about the presence of Carbon-14 (C-14) at the Chatham Docks site.

As I confirmed in my letter of 9 September, the Ministry of Defence (MOD) does hold information within the scope of your request. I shall address each of your questions in turn:

**Q1. Could you please provide me with details of the calculations and assumptions used to arrive at this figure (0.95 GBq of Carbon 14) and also information about the statistical uncertainty of the figure.**

Some of the information we hold was previously provided to you in the MOD's email of 9 October 2009, in response to your Request For Information (RFI), reference 18-09-2009-162855-001. This confirmed that a methodology known as the Mass Balance Hypothesis was used to estimate the quantity of C-14 present at the Chatham site. It also confirmed that the quantity of C-14 in radioactive waste arising from the Naval Nuclear Propulsion Programme is divided between the different ultimate waste stream types, and at the Chatham site these waste streams comprise "hard trash" and "soft trash".

Our records also show that this hard and soft trash is estimated to contain 1/50<sup>th</sup> of the C-14 found in boat resins. The boat resins from Chatham contained 47.52 GBq of C-14 and thus the hard and soft trash generated at Chatham is estimated to contain 0.95 GBq of C-14. A proportion of the hard and soft trash was disposed of at the Chatham burial site with the rest disposed of at other locations. When this estimate was made, the information on the proportion disposed of at the Chatham burial site was not readily available. Therefore the total quantity of C-14 in hard and soft trash across all locations was used as the maximum value of C-14 disposed of at the Chatham site.

The Mass Balance Hypothesis uses a best estimate approach in calculating C-14 in ultimate waste streams. This is because the variation in basic data could be up to a factor of ten and thus no meaningful statistical uncertainty could be applied to the value of 0.95 GBq.

**Q2. Could you provide me with information about the updated risk assessment for the burial site to take account of Carbon 14.**

I again refer you to the MOD's email of 9 October 2009 in response to your RFI, reference 18-09-2009-162855-001. This email states that the MOD does not hold information about the updated risk assessment. After a further search in response to this current request, I can confirm again that the MOD does not hold information relevant to this question. Outside of EIR, however, I can confirm that we understand that the Environment Agency's (EA) position is that they do not "see any need to revisit the MOD risk assessment at this time".

**Q3. Could you provide information why Carbon 14 has not been included in the environmental survey reports.**

The information we hold was included in the letter sent on behalf of the Director General Ship Refitting (Submarines), which was released as part of the MOD's response of 9 October 2009 to your RFI, reference 18-09-2009-162855-001. This letter confirms that Cobalt-60 (Co-60) is viewed as the dominant risk, and so it can be assumed, therefore, that the presence of C-14 at the Chatham site is not of enough significance to warrant inclusion in environmental survey reports.

Outside EIR, however, we can confirm our understanding that the EA acknowledges that C-14 monitoring is not necessary based on current regulatory requirements. This is because the level of C-14 present at the site is significantly below the minimum level for monitoring of 10 GBq. There is no regulatory requirement, therefore, to conduct environmental survey reports for C-14 specifically.

**Q4. Also, whether or not the MOD has now informed the Environmental Agency that Carbon 14 was also disposed by burial at Chatham when the original agreement from the then HMIP was for Cobalt 60.**

In summary, the answer to this question is "yes".

**Q5. Could you tell me if the MOD has provided any information about the radioactive waste burial site to the developers of the adjacent land. If so what information has been provided.**

I can confirm that the MOD does hold the following information that is relevant to this request:

*The Chatham low level radioactive waste repository was formally approved by Her Majesty's Inspectorate of Pollution (HMIP), now Environment Agency. Approval by certificate was granted with conditions of timescale of future tenure and use issued in 1980's, the navy is now searching the archives for this certificate. Without this we are unable to progress at the moment. The continuing monitoring regime data is sent to EA and may well be available directly from their website as it is deemed to be in the public domain. We will however follow up enquiries with DSTL who carry out the monitoring in order to establish the way forward.*

As you will be aware, however, there are provisions in EIR under which some information is exempt from release. It has been judged that a small amount of additional information in scope of this request is subject to Exception 12(5)(e), "confidentiality of commercial or industrial information". As with all EIR exceptions, this is a qualified exception, and so an assessment of the balance of public interest in releasing or withholding the information has been carried out.

The factors considered in favour of release include the MOD's commitment to openness and transparency in its commercial activities. The factors against release include prejudice to the commercial interests of, and relationship between, the MOD and the developer, which would be caused by the MOD releasing details of the developer's commercial activities before the developer discloses them itself. This would, in turn, harm the MOD's ability to achieve best value for money for the taxpayer. The MOD considers that the balance of public interest rests in withholding this information under Exception 12(5)(e).

If you are not satisfied with this response or wish to complain about any aspect of the handling of your request, then you should contact me in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Deputy Chief Information Officer, 2nd Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail xxxxxxxxxx@xxx.xx). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not investigate your case until the MOD internal review process has been completed. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website, <http://www.ico.gov.uk>.

Regards,

DE&S Policy Secretariat