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D/DGSM/CSSE/Sec(Nuc) 5/143

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**Defence
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DGSM/CSSE
Defence Procurement Agency,
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Rowan 1a, #164
MOD Abbey Wood
Bristol, BS34 8JH

Switchboard: 0117 91 3000

16 June 1999

Dear Mr Evans

REQUEST FOR DOCUMENTS - PO 84348

The documents you requested in your letter of 30 May are enclosed. I have had to use two boxes, and have enclosed a copy of this letter in each box. This is Box One of Two.

If you wish to make a complaint that your request for information has not been properly dealt with, you should appeal to The Ministry of Defence, OMD 14, Rm 617, Northumberland House, Northumberland Avenue, London WC2N 5BP. You may at any time register a complaint with the Parliamentary Commissioner for Administration (the Ombudsman) through your Member of Parliament, but the Ombudsman will expect you to have exhausted the internal Ministry of Defence complaints procedure first.

*Yours sincerely
S C GOULTY*

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AN EXECUTIVE AGENCY OF THE MINISTRY OF DEFENCE



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Attachment to AWE Bid Control Note / AWE Answer

Unique ID Ref: 1 MOD 1 Q 144

MOD Question:

1. What epidemiological studies have been carried out and what issues are expected in the future?
2. Does a list of past events/accidents? If so please provide a copy
3. Has an analysis of site ground contamination/radiological and non radiological been carried out - is there a report? If so please provide a copy.

AWE Answer:

1. Workforce Studies

AW(R)E has been included in all major national and international epidemiological studies undertaken since about 1988 on nuclear workforces and radiation workers, although only the Aldermaston and Foulness workforces have been included as insufficient data is currently held on computerised systems to include the former ROF sites (Cardiff & Burghfield).

Two studies have been specific to AWE workforces only - the Beral et al study (published in BMJ, Vol 297 p757.770 (1988), and the updated AWE Workforce Mortality Study 1998*. The 1998 study is a mortality follow up of the Beral study - including all Aldermaston and Foulness employees (R/A and non-R/A workers) from 1951 - 1982, with dosimetry follow up to 1985 and mortality follow up to 1996 (the Beral study mortality was follow up to 1982). This study shows the strong healthy worker effect seen in all national studies of this type, and is reassuring rather than alarming. There has been no reaction from the workforce.

There is only one significantly raised SMR (at the 5% level) in the whole study - kidney cancer in R/A workers monitored for internal exposure - but the numbers are small (16obs/9exp) in a total of 6516 deaths. This apparent excess is not seen in the larger UK studies (eg the recent second NRRW study, of which AWE comprises about 10% of the cohort), and it could have occurred by chance.

There is a small excess of pleural cancer (probably mesothelioma) in the whole workforce, not quite significant at the 5% level, but again the numbers are small (12obs/7exp), and the excess is slightly stronger in non-R/A workers. The NRRW study (of R/A workers only) also shows a very similar excess.

There are many cancers for which the mortality is significantly low at the 5% level; leukemia and multiple myeloma are low, but not statistically significantly so.

There is an unexpected positive trend of mortality by "diseases of the circulatory system" with external radiation dose (although the SMR is very statistically significantly low). The trend is not understood, may be caused by a confounding factor and has not been seen elsewhere.

In summary - quoting the Concluding Remarks from the note to the Workforce: "The Study provides very strong evidence of the good health of the workforce in general, and suggests only a very few matters which should be investigated further".

Local Populations

AWE is not able to undertake such studies, but supports such work. In order to be able to respond to inaccurate allegations, we are currently investigating historic childhood cancer rates in the vicinity of AWE sites using ONS mortality statistics and we can find no evidence at all of any excesses in villages very close to Aldermaston and Burghfield. This work will be completed by mid-1999.

Future Issues

Workforce studies have a few gaps (recent doses, recent employees, Burghfield & Cardiff workforces), and can be reanalysed for other exposure cohorts (eg beryllium workers) where these are an identifiable group. Some case control follow ups may be warranted. The capability for AWE to react robustly to for example pressure-groups allegations of cancer excesses, other health effects and "theories" that radioactivity transport in the environment, radiation detection and/or radiation risk are misunderstood by the "nuclear establishment", necessitate that a small body of expertise (the Health Effects Group) is maintained.

(* at present an "unpublished Company Report prepared by an independent research group under contract to AWE, which has been favourably peer-reviewed by Prof. Valerie Beral (Oxford University), and copies of which are available for staff to read in the company libraries. In addition, a shortened summary of this study was distributed to the workforce with the Company newspaper (Newslink) in March 1999. A paper will be presented at the Society for Radiation Protection International Conference in Southport in June 1999).

2. There is no definitive list of events/accidents held by Health Physics.
3. AEAT have carried out an investigation covering 14 areas and approx. 20% of the AWE(A) site. The paper reports are available from the Environment Department, C32. In addition there are a number of databases including the Geographical Information System (GIS) in the Environment Department that contains all that data as well as input from the Environmental Monitoring and Chemical Monitoring Programmes. Projects that take soil samples are now having analytical data produced in a format that allows it to be integrated with this system. The amount of data does not make it easy to copy wholesale.