



Nuclear Free Local Authorities Steering Committee

information

NFLA Media release - for immediate release, 25th January 2011

How may exposures to low level radiation affect human health and should we be worried about it? NFLA seminar seeks to find out.

The Nuclear Free Local Authorities (NFLA) is holding a special seminar on Friday 28th January considering one of the key elements of discussion on nuclear policy – does exposure to low level radiation seriously affect human health and in what ways? Can it also be passed on to future generations?

The seminar (1) will conclude a series of NFLA business meetings, including its Steering Committee and Annual General Meeting. A major photographic exhibition looking at the Hiroshima and Nagasaki atomic bombings will also be launched at Dundee City Chambers before it moves on next week to Dundee Wellgate Central Library.

The seminar will receive presentations from two eminent speakers on radiation health – Professor Eric Wright from Dundee University's Medical School and John Urquhart from the Open University based in Newcastle.

Professor Eric Wright has been recently researching the effects of ionising radiation and the induction of genomic instability. His current research is focussed on how genetic factors influence short-term cellular and molecular responses of cells to radiation stress and injury. He will discuss this research in an accessible way to councillors at the seminar.

Professor Wright is chairman of the Scientific Advisory Committee of the Association for International Cancer Research and chairman of the Radiation and Cancer Biology Committee of the British Institute of Radiology. He is also a member of the independent Committee on Medical Aspects of Radiation in the Environment (COMARE).

A key case study on the medical effects of low level radiation on human health are of the 3,772 British servicemen and merchant sailors who witnessed the tests of nuclear weapons in Australia and Christmas Island in the 1950s and 1960s. Statistician John Urquhart from the Open University will provide information on latest research on the health effects of a particular test – Grapple Y – where cancer rates of veterans and their children and grandchildren appear statistically higher than other groups (2). A number of British nuclear test veterans are currently involved in a major court case with the UK Government seeking additional research and compensation for the illnesses incurred.

John Urquhart has undertaken considerable statistical epidemiological research on the effects of low level radiation over the past two decades, considering the cases of nuclear test veterans and areas particularly affected by fall-out from the Chernobyl disaster of 1986.

NFLA Chair and Dundee City Councillor, Bailie George Regan, commented:

"I am delighted we have two experts on the issues of low level radiation and health speaking to the NFLA in Dundee. Over its 30 year history the NFLA has remained highly concerned over the effects of low level radiation on human health, whether it is airborne, through marine discharges or exposure to radioactive materials on land. This seminar will help focus us on the current debate as we await publication of the UK Government's COMARE report considering German Government statistics which suggest higher childhood cancer rates within 5kms of a nuclear reactor. These issues need to be raised sensibly and the NFLA have always sought to do this through asking the key experts in the field of the facts and figures in this debate."

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Bailie Regan added:

“I am also delighted that Dundee City Council is hosting the photographic exhibition ‘Hiroshima and Nagasaki Atomic Bombings – 65 Years On’ (3). This exhibition truly shows the horrors of nuclear weapons and the continued need to campaign for their complete abolition. I am glad the people of Dundee will have a chance to look at it before it goes on a tour around Scotland and the wider UK.”

Ends.

Further information

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Notes to Editors:

(1) SEMINAR FINAL PROGRAMME

Low level radiation and health seminar, Committee Room 2, 14 City Square, Dundee, DD1 3BY

12.50pm	Registration: Tea/Coffee
1.00pm	Welcome: Bailie George Regan, NFLA Chair, Dundee City Council
1.05pm	Professor Eric Wright, Dundee University Medical School – The effects of environmental and medical exposures to human health
1.35pm	John Urquhart, Open University – effects of radiation exposure on British nuclear test veterans
2.05pm	Panel discussion
2.30pm	Conclusion, seminar ends.

(2) Abstract for John Urquhart’s talk:

Genetic Effects of Nuclear Weapons in the Light Of New Evidence

The servicemen present at the British nuclear test explosions in the Pacific and Australia from 1952 to 1958 constitute a uniquely large sample of healthy young men who were at risk of exposure to ionising radiation. It now appears that at one test in particular the risk has resulted in an excess of cancers, fertility and family health problems, and skin conditions. The reporting rate for those at Grapple Y was more than four times greater for all these conditions than for those attending other twenty nuclear tests. On the other hand, the reporting rate for nil ill health was similar for all twenty-one tests. In the group of men who reported both cancer and fertility/family health problems, the reporting rate was nearly nine times higher in the Grapple Y attendees.

Men attending the Grapple Y test on Christmas Island who stayed on for the next test (Grapple Z) reported a significantly higher level for family health problems than those who attended the Grapple Y test only. On the other hand, men who attended the Grapple Z test only had no increase in reporting rate compared with other non Grapple Y tests.

These results were based on 2,409 reports collected between 1982 and 1999. The number of men attending the Grapple Y test was 3,722, while the estimated number attending non-Grapple Y tests is 16,922. There were 1,159 respondents for the Grapple Y tests of which 573 reported family health problems. There were 1,250 respondents who attended the British nuclear tests other than Grapple Y, of which 483 reported family health problems.

The continuing official secrecy surrounding the British nuclear tests has ensured, from an epidemiological point of view, the elimination of the major source of possible bias in reporting, since those who reported adverse ill health effects were ignorant of one particular test’s being more

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dangerous than any other. The test veterans' responses were collected between 1982 and 1999. It has only been in the last two years, since 2008, that suspicions about the Grapple Y test have appeared in the public domain. The higher levels of adverse health conditions reported by men attending the Grapple Y tests are consistent with exposure to significant levels of radioactive fallout from that test. This fallout may have occurred due to unusual weather conditions at the time, or because the Grapple Y bomb was exploded at a lower altitude than the official estimate, making it a 'dirty bomb', resulting in a large amount of local fallout.

A retrospective examination in 2002 of a sample of 350 families showed a significant increase in birth defect and other ill health rates in grandchildren, which could not be accounted for by Mendelian inheritance: the pattern of transfer suggested possible genomic instability effects between f1 and f2 generations. The effect was most marked in the grandchildren of Grapple Y families, compared with the grandchildren of non-Grapple Y families. Although 573 Grapple Y families reported ill health effects in their children, compared with 483 non-Grapple Y families, the sample of families with grandchildren showed an increasing preponderance of Grapple Y families (74:33 in the sample). This gave a relative deterioration for Grapple Y families of 90% between f1 and f2 generations (RR=1.9:1, p=0.002).

A trawl of the 2,409 individual health records revealed a five-fold preponderance of ill health, particularly cancer and multiple sclerosis, in the spouses or partners of test veterans involved in Grapple Y compared with other tests (p=0.02). These latter results were based on small numbers and should be treated with caution.

Nevertheless, the possibility that horizontal transmission of bystander effects and genomic instability as well as vertical transmission cannot be excluded. These effects may occur in other human populations exposed to nuclear fallout, such as from the Chernobyl nuclear accident, and persist for many generations.

(3) 'Hiroshima and Nagasaki Atomic Bombings – 65 Years On' will be shown in Dundee City Chambers on the 27th and 28th January 2011. It will then be shown in the Wellgate Library, Dundee city centre from 31st January – 11th February 2011. The exhibition is free and all are welcome to attend. A small amount of images in the exhibition are parental advisory.

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