

John Ainslie

From: Christopher Watson [cjhwatson@ntlworld.com]
Sent: 17 October 2008 11:40
To: John Ainslie
Subject: Re: Risks toScotland from Trident warheads and submarines

John

Thank you for a very positive response to my message. As regards your questions:

1. I think that one can safely use the ICPR figure to estimate risk of cancers from radiation exposure. See for example <http://www.gla.ac.uk/services/radiationprotection/rp4.doc>

Their figure of a risk of 5.8% per Sievert includes some non-fatal cancers, but even excluding those, the figure is still about 4%. By relating it to the dose in Sieverts, one is automatically allowing for the relative biological effectiveness of the radiation concerned, so it would give an approximate figure for plutonium, like any other radioisotope. I am not aware of any very special consideration applicable to plutonium.

2. As regards population densities around places of military interest, I am not sure where to go. The publications on cancer clusters around nuclear facilities presumably have such figures: a review on the subject in:

<http://www.iaea.org/Publications/Magazines/Bulletin/Bull332/33205892831.pdf>
gives a list of references which you might like to follow up.

Best wishes

Christopher

----- Original Message -----

From: John Ainslie
To: Christopher Watson
Sent: Thursday, October 16, 2008 12:11 PM
Subject: RE: Risks toScotland from Trident warheads and submarines

Christopher

Thanks four your useful comments.

With regard to calculating the number of casualties I can probably do this using the MoD figures. But I would like to double check their figures. Do you know any online source that would provide the relevant data for this ?

What I would need to find is:

the fatality risk from exposure to Plutonium relative to dose (mSv)
appropriate population density figures.

John

From: Christopher Watson [mailto:cjhwatson@ntlworld.com]
Sent: 10 October 2008 09:13
To: John Ainslie
Subject: Re: Risks toScotland from Trident warheads and submarines

Dear John

This second message from you fills me with shame. I confess that your first message has been sitting in my in-tray, slipping down as other even more urgent messages came in on top of it! So this time I really tried to read your report, and as always, I am hugely impressed by your energy and thoroughness, and by the measured way in which you report all the risks that you expose. I am also very impressed by your ability to ferret out information which, I am sure, most of those concerned are very anxious to keep quiet!

The only thing which I do not find in your report is any assessment of the ranking of all the risks that you discuss. I suspect that is because you do not have quite enough information to make such a ranking really scientific. However

the danger is that most people will get lost in your detail, and never get close to 'the bottom line'. So what about a semi-quantitative ranking, based on your best estimate of the annual risk to the public per head of population? The other relevant ranking is the likely maximum number of deaths per incident, regardless of its probability.

The reason why I have had so little time recently is that, in addition to my normal consultancy work, I am currently leading a British Pugwash Group working party on the problem of managing the UK stockpile of separated plutonium. It is a fascinating problem, and like yours, requires a lot of internet searching to get at uncomfortable truths. I hope we are going to complete the report within a few weeks now.

Best wishes

Christopher

----- Original Message -----

From: John Ainslie

To: cjhwatson@ntlworld.com

Sent: Monday, October 06, 2008 3:37 PM

Subject: Risks to Scotland from Trident warheads and submarines

Christopher

Were you able to look at the report I produced on risks from Trident (attached) ?

This has been submitted to the Scottish Government Working Group on Scotland Without Nuclear Weapons. One of the issues the working group is considering is the current regulatory system.

Scottish CND, plus some other NGOs, are considering engaging John Large to write a report on the likely effects of a nuclear weapons transport accident, possibly in Stirling, which is the Constituency of the Scottish Government minister who is leading the working group.

Any thoughts on this would be most welcome.

Best wishes,

John

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