

OFFICE OF THE SECRETARY
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ACTION OFFICE: EDO

TO: Sheron, RES
Cy: F5ME
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Cooper,
a200

AUTHOR: Phd David Brenner (Columbia Univ.)

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ADDRESSEE: CHRM Allison Macfarlane cc'd

SUBJECT: Concerns limited understanding of the health effects of low doses of ionizing radiation

ACTION: Information

DISTRIBUTION: RF, SECY to Ack.

LETTER DATE: 03/18/2013

ACKNOWLEDGED No

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NOTES:

FILE LOCATION: ADAMS

DATE DUE:

DATE SIGNED:



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March 18, 2013

The Honorable John P. Holdren
Assistant to the President for Science and Technology
Director of the White House Office of Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

Dear Dr. Holdren:

The Fukushima nuclear accident in 2011 emphasized major gaps in our understanding of the health effects of low doses of ionizing radiation. These gaps seriously impact our ability to make optimal science-driven decisions in response to a major nuclear event in the United States, accidental or otherwise. It follows that the United States has a critical need to enhance research on low-dose health effects and to ensure that the nation maintains a sufficient pool of relevant expertise. Because these issues are of such national significance, and the potential health and economic consequences so major, we have joined together to outline our concerns and to suggest a practical way forward.

Our limited understanding of low-dose health risks seriously impairs the nation's decision-making capabilities, both in the short and the long term, after a large-scale radiological event. For example, differing strategies for evacuation after Fukushima ultimately relate to our limited quantitative knowledge of low-dose radiation risks. But it is also true of our understanding of the long-term health consequences of a radiological event involving large populations: while the regulatory agencies assume that there is no radiation dose below which the health risk is zero, we really do not have sufficient data or sufficient understanding to know whether this is really the case, or whether, as some assert, low radiation doses may even be beneficial. Setting permissible standards too stringently will result in a major and unnecessary economic burden to the nation, whereas setting standards too low would present an unacceptable cancer burden for the population.

While a large-scale radiological event is perhaps the most obvious issue of concern here, other issues such as the rapid increase in medically-based radiation exposures, cleanup of radioactively contaminated sites, as well as the need for science-based policies regarding the possible expansion of nuclear power, require a level of research and scientific expertise that the US is rapidly losing – in universities, in national labs, and in industry. Apart from the human health issues, all these topics have, of course, major economic consequences for our nation.

For many years the US has been the world leader in the field of low-dose radiation research, but more recently the US has lost significant momentum, noticeably so in comparison with Europe and Asia. Whilst a few small US research programs still exist in this area, such as at NASA, the single US program principally dedicated to supporting US-based extramural low-dose radiation research, the Department of Energy's Low Dose Radiation Research Program, is clearly winding down. The overall outcome will not only be a diminution of research on the key issues outlined above, but also a critical decrease in the pool of US subject-matter experts who will be available to assist in high-level policy and decision making.

Moving forward, therefore, we suggest that the National Academy of Sciences be asked to prepare an expert report on the future of low-dose radiation research in the US. The objectives of such a report would be to:

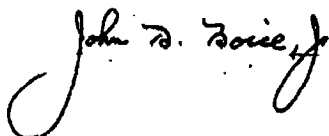
- assess the current status of low-dose radiation research in the US at all levels;
- formulate overall scientific goals for the future of low-dose radiation research in the US;
- develop a long-term strategic research agenda to address these scientific goals, ideally in concert with programs in other countries;
- define the essential components of a sustainable program that would address this research agenda within the universities and the national labs;
- assess the cost-benefit effectiveness of such a program.

We would of course be happy to meet with you at your convenience to discuss these issues in more detail.

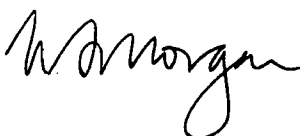
Yours Sincerely,



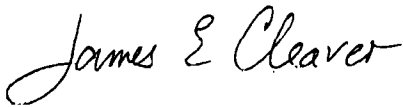
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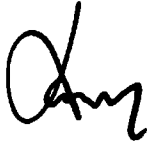
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William F. Morgan, Ph.D.
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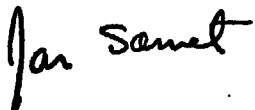
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