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October 18, 2011

For Immediate Release

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NEW BRIEFING PAPER FROM NIRS: ATOMIC RADIATION IS MORE HARMFUL TO WOMEN

Women as a group suffer significantly more from the impact of ionizing radiation than do men. Today Nuclear Information and Resource Service published a Briefing Paper that focuses on a dramatic fifty-percent greater incidence of cancer and fifty-percent greater rate of death from cancer among women, compared to the same radiation dose level to men. To be clear: males suffer cancer and cancer death from exposure to ionizing radiation; but gender difference in the level of harm has been to date under-reported.

The data leading to this conclusion originally was reported in the National Academy of Sciences 2006 report, "BEIR VII" which is the seventh report in a series on the Biological Effects of Ionizing Radiation. The greater vulnerability of females was not the focal point of that publication, and the concern has until now escaped notice.

NIRS is co-releasing the paper with activist groups in global "hot spots" including Japan (Green Action), Ukraine (Ecoclub) and Pennsylvania (Three Mile Island Alert). The paper is posted at: <http://www.nirs.org/radiation/radhealth/radiationwomen.pdf>

NIRS is focusing new attention to this data because people living near nuclear facilities are subject to ongoing exposure to radioactivity that is routinely released to air, water and soil, even in non-accident conditions. Nonetheless, those living in the zones impacted by radiological catastrophes, including Three Mile Island, Chernobyl and Fukushima, are at even greater risk.

"The data is startling; the fact that it has been un-reported, including by the National Academy itself, is shocking. The data shows a consistent fifty percent higher cancer incidence and also cancer death in women compared to men. A disproportionate impact at that level is stunning. More research is warranted and action is needed now to ensure that the vulnerable are protected," said Mary Olson, NIRS Staff Biologist, who wrote the 8 page briefing paper being published today. "Let us be clear: radiation causes disease and death in men; the same rate of exposure causes more harm to women. The Precautionary Principle dictates that we protect first, study second."

As is well-known, children are the most vulnerable to radiation damage. Key mechanisms for why ionizing radiation harms children more are: first, smaller body mass results in a higher dose from a given level of radiation; second, since a growing child's cells divide rapidly, their DNA is more exposed and vulnerable to damage from radiation. "The finding that women are also more vulnerable than men is likely due to a combination of mechanisms, and requires further study," said Olson. "Body mass may be a factor, however we also know that reproductive tissues are very radio-sensitive; women have a higher percentage of this tissue in our bodies compared to men. The NAS data is also limited, it only considers external sources of radiation. Internal exposure must also be considered in order to describe the real-life situation we are in."

Eric Epstein, Chairman of Three Mile Island Alert, noted, "On March 30, 1979, Governor Richard Thornburgh recommended an evacuation for preschool children and pregnant women living within five miles of Three Mile Island. Data collected since the meltdown clearly demonstrate a significant nexus between radiation exposure and adverse health impacts to women and children."

"This information comes at a crucial time for Fukushima because there are countless young women with children who want to leave the area but cannot because they do not have the economic means to do so. The most vulnerable population--pregnant women, children and women in general--are trapped because the Japanese government does not provide financial compensation," said Aileen Mioko Smith of Green Action in Kyoto, Japan.

"Despite the disastrous consequences of the accident in Chernobyl, the evaluated impact of a severe accident at the planned units 3 and 4 of the Khmelnytsky NPP in Ukraine has been diminished by at least 10 times. It states, for example, that the greatest damage will be caused by the need to remove a certain amount of milk after a severe accident. As shown in published studies, however, the consequences for women are even worse than previously understood. This must be included in the KhAES 3 & 4 evaluation," said Andriy Martynyuk of Ecoclub in Rivne, Ukraine.

"Radiation regulators need to remember that a species does not survive well without protection for both the young and females. This is not a 'women's issue'--men need us to be healthy too," said Olson. "At the same time, I am deeply concerned that women have a right to know, a right to protect ourselves and a right to equal protection under the law. In the case of ionizing radiation, that no longer means the same level of regulation."

Note: NIRS will be conducting a briefing on this paper with author Mary Olson; NIRS Radioactive Waste Project Director Diane D'Arrigo; internationally-known radiation expert Dr. Rosalie Bertell and Eric Epstein, Chairman of Three Mile Island Alert, on Thursday, October 27 at 10 am Eastern time. Contact maryo@nirs.org or 828-242-5621 for call-in information.