



NEWS ADVISORY

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Female Body Should be Basis of Radiation Safety Regulation

Partner Groups Launch Reference Girl Project

TAKOMA PARK, MD, Monday, May 10, 2021 —Radiation exposure standards have failed to protect women and children, the most vulnerable to harm, relying on a “Reference Man” model which must urgently be replaced by "Reference Girl", two advocacy groups say.

“Today we are announcing a project to collect information and public input in order to draft a new Reference Individual who, unlike Reference Man, will offer better protection for everyone,” said Cindy Folkers, Radiation and Health Hazard Specialist at Beyond Nuclear. “We have waited too long for other bodies to step up and make this change,” Folkers continued. “Reference Man needs to be retired”.

While pregnancy has been an element of radiation regulations for workers in general in the United States, federal and state safety regulations governing industries that produce or use ionizing radiation have been based on Reference Man. Fifteen years ago it became clear that biological sex -- being female apart from pregnancy -- is a potent factor in a greater rate of harm from exposure to ionizing radiation.

“Data from the survivors of Hiroshima and Nagasaki already show that in order to protect our human lifecycle this individual should be a young girl,” said Mary Olson, Director of the Gender and Radiation Impact Project.

“Traditional Indigenous lifestyle and customs of North America are more inclusive for human lifecycle protection. The urban-industrial lifestyle designated for current Reference Man leaves out many people. With many factors to be determined, we are opening consultations before we draft the definition of Reference Girl”, Olson said.

Reference Man is defined by six parameters, and this “envelope” is used in many ways including to calculate radiation exposure, project risk of harm from exposure, and determine compliance with regulations. Similarly, Beyond Nuclear and Gender and Radiation Impact Project will offer a new “envelope” that can be swapped for Reference Man in the same regulatory model. This is only a first step in improving radiation protection since the reproductive phase is probably even more impacted.

"As a health protection model, Reference Girl will afford more protection to our entire population fairly easily under the current regulatory regime," Folkers stated.

“However, she cannot represent the totality of the exposure damage to our entire lifecycle. For that, we would need a Reference Fetus, a more complicated standard and one that would better account for past radiation exposure and future impact.

“Nonetheless, Reference Girl is needed and can be deployed in the rapid fashion our health requires," Folkers concluded.

Ionizing radiation occurs naturally on Earth and in space, and human activity has also created a great deal, thanks primarily to the use of fission in weapons and electric power production. Because exposure can be deadly—either due to levels high enough to destroy tissues and organs directly, or lower levels that cause mutations that can lead to reproductive problems and cancer—ionizing radiation is regulated.

RESOURCES:

Formal Announcement of Reference Girl Project

<https://www.genderandradiation.org/reference-girl>

Questions Worth Asking about Reference Girl

https://drive.google.com/file/d/1cLj-XXqC7DB_zUmbP-Gu2sk_XUHkQkjP/view

Reference Girl: Necessary, but not the endpoint for radiation protection

<http://static1.1.sqspcdn.com/static/f/356082/28432948/1620307796553/FINAL+Ref+Girl+Necessary+not+the+end.pdf?token=Ms393yIV8irY6RQ3Fbm69cO46aM%3D>

VIDEO: In the Atomic Age, Gender Matters – Mary Olson presents background for Reference Girl Project <https://www.youtube.com/watch?v=ROJtYmJCQvU&t=6s>

VIDEO: Increasing radiation exposure: who will pay? Cindy Folkers walks through how radiation exposure assumptions fail to protect females and early life. <httphttps://vimeo.com/207380838>

Reference Man, a history by David Lochbaum, GRIP Board Member

https://drive.google.com/file/d/17npIPuVg89EL9ylkPa_jQJAKORhnpS6u/view