



The data showed a higher risk of death from solid cancers in analyses restricted to the low dose range (0-100 mGy) and to workers hired in the more recent years of operations, when recording techniques were more complete.

“This major update to INWORKS provides a direct estimate of the association between protracted low dose exposure to ionizing radiation and solid cancer mortality based on some of the world’s most informative cohorts of radiation workers. The summary estimate of excess relative rate solid cancer mortality per Gy is larger than estimates currently informing radiation protection, and some evidence suggests a steeper slope for the dose-response association in the low dose range than over the full dose range,” the researchers concluded in part, adding that “Our study does not find evidence of reduced risk per unit dose for solid cancer among workers typically exposed to radiation at low dose rates.”

Support for ongoing research to obtain data on low-dose radiation health effects that could inform regulatory decision-making has been highlighted as an American Nuclear Society Grand Challenge and is emphasized in ANS Position Statement #41, *Risks of Exposure to Low-Level Ionizing Radiation* (updated in 2020). A June 2022 report issued by the National Academies of Sciences, Engineering, and Medicine (NASEM) recommended a coordinated research program led by the Department of Energy and the National Institutes of Health to investigate causal links and better define the impacts of radiation doses, dose rates, types of radiation, and exposure duration.

Shaheen Dewji, an ANS member and assistant professor in the Nuclear and Radiological

Engineering and Medical Physics Programs at the Georgia Institute of Technology, is a member of the NASEM Nuclear and Radiation Studies Board. She told *Nuclear News* that the INWORKS results “are essentially not ‘out of the ballpark’ from what has been developed previously but provide a more

focused dose-response model for low-dose radiation exposures, specifically from a controlled cohort study, specifically exposed to protracted low-dose radiation.”

Dewji, who was not involved in

Research & Applications continues



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