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New Findings May Trigger Stricter Rules for Low Dose Radiation Discharge

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A new report from the National Academies of Sciences, Engineering, and Medicine (NASEM) released on June 2 suggests that radiation standards promulgated by the Environmental Protection Agency (EPA), the Department of Energy (DOE), and the Nuclear Regulatory Commission (NRC) must be strengthened due to low dose radiation's negative effects on human health. The study was undertaken by the Committee on Developing a Long-Term Strategy for Low-Dose Radiation Research in the United States and was sponsored by the DOE.

Broadly, the NASEM findings indicate that exposure to low doses of radiation may lead to cancer, cardiovascular disease, neurological disorders, immune dysfunction, and cataracts. Low dose radiation is defined as below 100 milligray (mGy) or low-dose rates of less than 5 mGy per hour. Such levels may be present in medical, industrial, military, and commercial settings. The findings specifically note that rare earth element mining—which is currently being pursued by the Biden administration to develop cleaner energy—can lead to both low dose radiation exposure and groundwater contamination through the release of radionuclides. The NASEM report suggests the development of a research program, led by the DOE and the National Institutes of Health (NIH), to study the effects of low dose radiation on human health. The report estimates that the program will cost approximately \$100 million annually over 15 years and will include computing power, genetic research, and data-sharing systems to conduct epidemiological and biological research and develop research infrastructure. The report indicates that previous research related to health effects of low dose radiation in the United States lacked leadership, central coordination, and an overarching strategic agenda.

While early in the process, it is possible that the results of this study (and the proposed research program, if funded) may lead to more restrictive rules and guidance promulgated by EPA, DOE, and NRC related to radiation discharge. We will closely watch for the outcome of the study as it may affect US government decisions related to the future of nuclear power and clean energy policies, including continuing assessment of radiogenic health outcomes from a variety of sources.

The full NASEM report is available for download [here](#).

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