



NRC NEWS

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NRC to Regulate Fusion Energy Systems Based on Existing Nuclear Materials Licensing

The Nuclear Regulatory Commission has [directed the staff](#) to create a regulatory framework for fusion energy systems, building on the agency's existing process for licensing the use of byproduct materials.

“Dozens of companies are developing pilot-scale commercial fusion designs, and while the technology's precise future in the United States is uncertain, the agency should provide as much regulatory certainty as possible given what we know today,” said NRC Chair Christopher T. Hanson. “Licensing near-term fusion energy systems under a byproduct material framework will protect public health and safety with a technology-neutral, scalable regulatory approach.”

NRC staff will begin a limited revision to materials licensing regulations, including consideration of whether the revision should create a new rule category specifically for fusion energy systems. The Commission also directed the staff to take several related actions, including expanding materials license guidance to cover fusion systems nationwide.

Fusion systems would generate electricity from the energy released when hydrogen atoms are combined to form helium; current nuclear reactors use the splitting, or fission, of uranium atoms. The staff had earlier [determined](#) fusion systems fall outside of the requirements to be regulated as nuclear reactors.