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NRC Issues First Construction Permit in Nearly 60 Years for High-Temperature Gas-Cooled Reactor

Third advanced reactor construction permit this year clears the way for 4-reactor project to supply industrial steam and electricity in Texas

ROCKVILLE, Md. — The Nuclear Regulatory Commission has issued a construction permit for the Long Mott Generating Station in Calhoun County, Texas — the first construction permit for a high-temperature gas-cooled reactor in nearly 60 years. It is the third advanced reactor construction permit the NRC has issued this year, clearing the way for Long Mott Energy to build a four-reactor facility.

Designed to include four X-energy Xe-100 reactors, the facility will primarily generate high-temperature steam for industrial use at the Dow Seadrift Operations site. Excess electricity will be exported to the grid.

The permit marks several regulatory firsts for the NRC: its first approval of a multimodule advanced reactor facility; its first approval of a reactor with a pebble-bed core; its first approval of a design featuring online nuclear refueling; and its first review of a high-temperature gas-cooled reactor under the agency's risk-informed, technology-inclusive Licensing Modernization Project framework.

"Today, the new NRC is issuing America's first construction permit for a high-temperature gas-cooled reactor in more than half a century," NRC Chairman Ho K. Nieh said. "We delivered on the 18-month schedule, proving we can do rigorous safety reviews on predictable timelines that move advanced nuclear technology from design to construction."

NRC staff completed the comprehensive safety evaluation in October, one month ahead of schedule. The agency issued its Environmental Assessment and Finding of No Significant Impact in May.

The construction permit authorizes the company to build the facility but does not authorize operation. Before loading fuel or operating the reactors, the company must obtain a separate operating license from the NRC. More information about the Long Mott Generating Station project is available on the NRC website.

The U.S. Nuclear Regulatory Commission was created as an expert, technical agency to protect public health, safety, and security, and regulate the civilian use of nuclear materials, including enabling the deployment of nuclear power for the benefit of society. Among other responsibilities, the agency issues licenses, conducts inspections, initiates and enforces regulations, and plans for incident response. The NRC is collaborating with interagency partners to implement reforms outlined in new Executive Orders and the ADVANCE Act to streamline agency activities and enhance efficiency.