WASHINGTON -- Following action by a key federal body on Wednesday, the U.S. Nuclear Regulatory Commission is expected by the end of this month to issue the nation’s first commercial license for a laser-based means of atomic fuel production.

That might be unwelcome news to a wide array of nonproliferation advocates and some key lawmakers on Capitol Hill, who have pleaded with the agency to more thoroughly consider the possible ramifications of the global spread of a new enrichment technology following an endorsement from Washington.

The NRC Atomic Safety and Licensing Board on July 11 heard GE-Hitachi’s bid to build and operate a facility that would use a laser process to enrich uranium -- material that would ultimately be sold for use in commercial reactors worldwide. It subsequently handed down an “initial decision” that “authorized the issuance of the license,” according to this week’s announcement.

A permit would allow the energy giant “to possess and use source, byproduct and special nuclear material and to enrich uranium to a maximum of 8 percent … by a laser-based enrichment process” located in Wilmington, N.C., the board stated.

“Under NRC regulations … the staff now has 10 days to finalize and issue the license,” agency spokesman David McIntyre said in a Wednesday statement.

The anticipated timing would keep the Nuclear Regulatory Commission on its earlier schedule for approval of the laser enrichment bid by the end of September, despite a nearly three-week delay in the release of the review board’s decision.
Late last month, the safety and licensing body’s three administrative judges said they could not meet prior expectations for release of their decision by the end of August, “due to the challenges of safeguarding the classified and other types of nonpublic information” associated with the laser enrichment effort.

After that postponement, the NRC online licensing-review schedule was altered to reflect a delay until Oct. 31 for approving the so-called “Global Laser Enrichment” permit request.

In its statement this week, the board said it would release “as soon as practicable” an unclassified version of its decision after vetting to ensure that “proprietary and other nonpublic information” is redacted. The judges said they have placed all classified information associated with their decision into an index that would not be made public.

The Atomic Safety and Licensing Board's backing for the laser enrichment permit was not a surprise.

"I have never seen an ASLB that has denied a license request under consideration, so it was to be expected that this licensing board would approve the [GE-Hitachi] request," said Tom Clements of the Alliance for Nuclear Accountability.

In the meantime, the Nuclear Regulatory Commission is not expected until next month to formally respond to a 2010 petition by the American Physical Society that would require license applicants for new enrichment or reprocessing approaches -- such as laser uranium processing -- to assess any associated risk of worldwide proliferation.

Laser enrichment, for example, might lower the cost of nuclear fuel production by requiring a smaller facility space and less energy consumption than ever before. At the same time, those same benefits could also eventually make laser a technology of choice for a nation seeking to clandestinely produce a key material for nuclear warheads, according to issue experts.
The 8 percent enrichment limit for GE-Hitachi would allow for the production of commercial reactor fuel and is nowhere near the roughly 90 percent level required for use in an atomic weapon.

However, once Washington approves the laser approach for commercial use, a research and development boom could follow around the globe that would open the door to covert uses, according to critics. A laser enrichment site built overseas might be scaled down to such a small "footprint" that it is virtually undetectable from the outside, allowing for illicit production of weapon-grade material, observers say.

NRC staff has resisted the idea of changing the agency's licensing process to include proliferation assessments. However, Chairwoman Allison Macfarlane last month assured a member of Congress that the commission was taking the “concerns very seriously and is fully evaluating the petition.”

"Now, it's up to the commission to act in a manner that takes into account sound nonproliferation policies by requiring a proliferation assessment before the commission votes on the license request," said Clements, who serves as his organization's nonproliferation policy director.