The nuclear industry was dealt a major blow Friday when its top federal regulatory agency announced it was delaying the approval of the most-popular reactor design pending before the agency.

The design is included in six out of a total of 13 pending applications at the Nuclear Regulatory Commission right now. The application for the design, known as AP1000, was submitted in 2007 by nuclear equipment and design company Westinghouse. If the six applications are approved, 12 reactors could get built with the AP1000 design. In total, 21 reactors are pending before the agency.

NRC Chairman Greg Jaczko said in a statement that in reviewing the design, the agency uncovered "additional technical issues."

"Westinghouse must resolve the issues before we can consider finalizing NRC certification of the design." Jaczko said. He did not say how long of a delay this would create. "The agency will determine what impact this effort may have on the schedule for the AP1000 design amendment and related license application reviews."

Jaczko said the agency now has more questions about the reactor design's shield building and the "peak accident pressures expected within containment."

The announcement Friday afternoon carries with it symbolic and regulatory repercussions for an industry that hasn't seen an American reactor built in more than 30 years. The delay exacerbates the regulatory bottleneck the NRC has faced ever since it reformed its approval process following the partial core meltdown at a nuclear plant at Three Mile Island in Pennsylvania in 1979.
On top of regulatory issues, nuclear power companies face significant steep upfront capital costs to build a reactor. And in the wake of Japan's nuclear crisis, the American nuclear industry must also reassure the public and the government that it operates in a safe manner. Jaczko underscored that in his statement.

"The NRC will always place its commitment to public safety and a transparent process before any other considerations," Jaczko said.