

From: [Matthew Grotke](#)
To: [RulemakingComments Resource](#)
Subject: [External_Sender] Comment on proposed rule language (Docket ID NRC-2019-0062)
Date: Thursday, December 10, 2020 11:33:13 PM

Regarding the proposed regulatory framework for the licensing and regulation of advanced nuclear reactors:

I request that the NRC and rulemakers keep consideration of the many different types of advanced nuclear designs. I would like to see a framework that does not obstruct, but rather guides and facilitates the R&D, testing, and eventual licensing of designs which incorporate some of the following characteristics.

- (1) Solid fuel reactors that use coolants other than water (i.e. lead, sodium, molten salts, helium gas).
- (2) Liquid fuel reactors (i.e. molten fluoride/chloride salt fuels).
- (3) New corrosion-resistant materials such as Hastelloy N alloy, etc.
- (4) Fast-spectrum burning and/or breeding of U238 and Spent Nuclear Fuel (SNF).
- (5) Alternate fuel cycles including mixed fuels (i.e. Pu239/U233/U235 mixed with Th-232).
- (6) Thinner pressure vessels for those reactors that operate at atmospheric pressure.
- (7) The use of supercritical CO2 in lieu of steam in turbine loops.

Note: The licensing application should include a section for explaining why the reactor design makes it infeasible for fissile material to be diverted, or for engineered safeguards to be bypassed by a bad-intentioned plant operator.

Thank you for providing the opportunity for the public to comment.
v/r
Matthew Grotke