



The Urgency of NRC Reform

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There is growing recognition that advanced nuclear energy is needed to meet our climate and energy security goals, and that Nuclear Regulatory Commission (NRC) reform is needed to enable advanced nuclear energy. Our mission at the Nuclear Innovation Alliance (NIA) is to help create the conditions necessary for development and deployment of advanced nuclear energy, including NRC reform. Two things are required to make reform happen: (1) a shared sense of urgency and (2) a shared willingness to roll up our sleeves and dig deeply into removing the operational and organizational barriers that are getting in the way of meeting this moment.

NRC's job is to license new reactors and oversee existing ones to ensure the public safely benefits from nuclear energy. NRC has many organizational strengths. It has a highly technical and dedicated staff. As an independent Commission with a bipartisan set of five commissioners, it is relatively insulated from changing political winds. It has a proud history of overseeing a remarkably safe nuclear industry.

But it is not doing its job efficiently enough. Historically, public debate around NRC has been between anti-nuclear voices advocating for slower licensing or fewer nuclear power plants, and industry advocating for streamlined regulations and more nuclear power plants. NIA and others are injecting a new voice and message into this conversation: that there is a public interest in efficient and effective licensing because there is a public interest in solving climate change and achieving energy security as quickly as possible.

NRC licensing efficiency is just one example of a broader challenge for all clean energy, not just nuclear energy. Our country's infrastructure permitting rules implicitly assume that it is okay if it takes years or even decades to build new infrastructure. This premise is no longer acceptable, and, in retrospect, it probably never was just or correct. Solving climate change and ensuring energy security requires that we replace and build new clean energy infrastructure rapidly. NRC reform is a set of actions that need to be taken by NRC staff, the Commission, Congress, the nuclear industry, and civil society to improve the effectiveness and efficiency of advanced reactor licensing. Work is needed to reform NRC licensing on three timescales: short-term, medium-term and long-term.

In the short term, about a dozen advanced reactor developers are engaging one-on-one with NRC to obtain approvals under existing rules. This is challenging because the current licensing pathways have been tailored to conventional, large, light water reactors. There are many things that NRC and industry license applicants can do to make these early engagements go well. (See the recommendations in NIA's most [recent licensing efficiency report](#)). NRC staff and applicants have been making good progress on licensing the Hermes test reactor and the Abilene Christian University research reactor, incorporating lessons learned from NuScale's design approval, which took too long and cost too much. But licensing timelines and costs are uneven, often attributable to inconsistent quality in mundane but important practices like disciplined project management and clear internal and external communication.

The NRC Commissioners are beginning to dig into the details to improve licensing. For example, then Commissioner Baran proposed in June that the Commission request staff input on a proposed Commission policy statement to communicate the Commission's expectations to the NRC staff, the Advisory Committee on Reactor Safeguards, and external stakeholders on the effectiveness, efficiency, and timeliness of new reactor licensing reviews. Commissioner Crowell has since endorsed that proposal. In a complementary effort, Commissioners Caputo and Wright issued a proposal to establish performance metrics to measure NRC's progress in improving licensing efficiency. Chairman Hanson led the Commission to promulgate a risk-informed approach to right-sizing emergency planning zones for advanced reactor projects.

For the medium term, NRC has begun a multi-year rulemaking on risk-informed, performance-based and technology-inclusive licensing (referred to as "10 CFR Part 53", or more simply "Part 53"). This rulemaking is required under the 2019 Nuclear Energy Innovation and Modernization Act ([NEIMA](#)), and a draft rule is before

the Commission. As described in [NIA's Part 53 paper](#), the rule is flawed but fixable with leadership by the Commission. And the Commission is stepping up. At its public briefing by NRC staff on May 16th, all five Commissioners asked the staff tough questions and are reportedly working to rewrite the rule themselves or send it back to the staff with specific instructions. Commissioner Caputo and Commissioner Wright have already voted on revisions to the proposed rule. Completion of this work is urgent and important.

For the long term, we need to re-imagine licensing in a world where NRC must license dozens, if not hundreds, of reactors per year. Ultimately, this will require streamlined and standardized NRC processes and practices as well as standardized technologies. Thinking on this topic has only just begun.

There is much Congress can do to reform NRC through authorization, appropriations, and oversight. Requiring a new rulemaking under NEIMA was an important congressional achievement, but additional off-fee appropriations and oversight are essential to ensure successful completion of the rule, and to ensure NRC improves the management and organizational issues that stand in the way of efficient licensing. Under the leadership of Chairman Carper and Ranking Member Capito, the Senate Environment and Public Works Committee worked on a bipartisan basis to report out the ADVANCE Act with a 16-3 vote, and it has been added to the Senate version of the National Defense Authorization Act. The ADVANCE Act contains several useful NRC reforms. For example, it improves how NRC charges fees to applicants, authorizes hiring incentives to address NRC's workforce issues, and establishes prizes to cover licensing costs for early movers.

We are also seeing bipartisan leadership and a willingness to take on NRC reform in the House. In April, Energy and Commerce Committee Chair Rodgers, Ranking Member Pallone, Subcommittee Chair Duncan and ranking Member Degette issued a request for information from key stakeholders. The Subcommittee then heard testimony from stakeholders in April, held an NRC oversight hearing in June with all five NRC commissioners, and held a legislative hearing in July. Constructive congressional oversight to hold NRC accountable is an essential first step toward improving NRC performance.

NIA is pleased to see companies, civil society, NRC staff, Commissioners, and Congress recognizing and communicating the urgency of NRC reform and committing to do the hard work to make it happen. But more is needed. In addition to the useful reforms in the ADVANCE Act, there are many options for Congress to pursue through legislation and oversight.

NIA recommends that Congress establish an independent panel to conduct a comprehensive examination of NRC's organizational effectiveness, leadership and culture. Unlike many Congressionally mandated panels that come up with high-level recommendations, this panel would dig deep, surveying employees and management; and identify the HR practices, organizational roles and responsibilities, training, performance incentives, and internal processes that pose barriers to NRC's effectiveness and efficiency, and recommend how to eliminate these barriers. For example, the Panel should dig into the role of NRC's Office of General Counsel (OGC). OGC decisions determine the extent to which NRC can take advantage of the flexibility under the Atomic Energy Act, which provides room to innovate and move beyond existing regulatory precedents to achieve genuine improvements. OGC can encourage or discourage the two-way communication with stakeholders that is essential to developing novel regulatory approaches.

Other useful reforms Congress should pursue include ensuring that NRC conducts more proactive, two-way engagement with stakeholder and the public and develops more simplified and accessible technical documents, information tools, and meetings. NIA also recommends focusing the NRC's Advisory Committee on Reactor Safeguards on reviewing only novel safety issues ([see NIA report](#)) to make the best and most efficient use of their expertise. NIA would also like Congress to eliminate certain mandatory hearings, as recommended in a recent Idaho National Laboratories report ([see INL report](#)), which waste agency time and resources without benefiting the licensing process.

NIA would like to see the Commission complete work on a policy statement and metrics for NRC efficiency and effectiveness, and for Congress to continue its efforts to hold them accountable. We'd like to see an NRC staff that is both empowered and accountable to effectively and efficiently review license applications. We are heartened by the recent signs of progress on NRC reform, but much work remains. It is urgent that NRC become an agile, modern, risk-informed, and performance-based regulator to successfully meet this moment.

For more information on NRC Modernization, please contact the NIA at info@nuclearinnovationalliance.org.