

Comments of the Citizens Action Coalition (“CAC”) on the Indiana Utility Regulatory Commission’s (“IURC”) Strawman Draft Proposed Rule Regarding Small Modular Nuclear Reactors (“SMRs”)

January 12, 2023

Introduction

CAC appreciates the opportunity to review the IURC’s strawman draft proposed rule regarding SMRs and hereby provides the following initial comments.

The IURC’s strawman draft proposed rule provides a starting place for the IURC’s SMR rulemaking by generally mirroring the statutory language of Indiana Code 8-1-8.5-12.1. However, additional specificity and expansion of the rules are necessary for utilities and the IURC to implement the statute in manner consistent with the public interest, as the statute itself provides only high-level provisions.

Given the substantial uncertainty and risk posed by this novel and commercially unproven technology, and that no utility has sited and operated a nuclear power plant of any kind in Indiana to date, **CAC strongly recommends that the IURC add additional provisions to its rule to ensure the adequate protection of human health and safety, affordable consumer utility bills, and protection of the environment, consistent with the public interest and Indiana law.** For example, the current strawman draft proposed rule does not include any explicit ratepayer protections.

As nuclear disasters at Fukushima, Three Mile Island, and Chernobyl have demonstrated, when problems arise at nuclear power plants, it can create sudden, dire threats to public health and safety and potentially long-lasting catastrophic environmental and economic impacts. Furthermore, as is evident from recent examples of soaring construction and financing costs at Vogtle Units 3 and 4 and the canceled VC Summer nuclear power plants in the Southeast, and the first SMR project estimated to come online in December 2029 in Idaho that has experienced recent cost increases,¹ captive ratepayers can face uniquely high risks of skyrocketing bills when their utility pursues nuclear power if the risk of cost overruns is not borne by utility shareholders.

It is of utmost importance that the IURC include robust consumer protections and utility transparency in its SMR Rule. This means a utility requesting a CPCN for an SMR needs to provide far greater information in its case-in-chief demonstrating its SMR project is consistent with the “public convenience and necessity” than if the power plant was of a type that exists in Indiana today. This also means there must be ample public participation opportunities in communities and ratepayers that will be impacted by the SMR project.

Given that this is a rule for “small” modular nuclear reactors, and that the underlying statute specifies a size threshold of 350 MW or less to qualify as an SMR, the rule should explicitly

¹ <https://world-nuclear-news.org/Articles/Further-cost-refinements-announced-for-first-US-SM>

include this capacity size restriction and make clear that each SMR project of 350 MW or less shall require a separate CPCN filing.

Finally, the IURC should ensure its SMR rule includes additional requirements that identify consumer protections to ensure ratepayers do not face undue financial risk from any SMR facilities that are constructed that would result in unjust and unreasonable rates. For example, the IURC should include provisions in the rule to address material changes in project cost estimates as the project proceeds through the study, analysis, development, siting, design, licensing, permitting, and construction steps to ensure that any material changes in costs to ratepayers trigger a review by the Commission to ensure that the project remains in the public convenience and necessity. Indiana must learn from the experience of other state jurisdictions and not expose ratepayers to unlimited cost risk from nuclear projects.

Additional Filing Requirements

The SMR rule should, at a minimum, be revised to include in Section 5(b) additional provisions requiring utilities proposing to site SMRs in Indiana to provide the following information in their case-in-chief:

- Demonstration of net utility bill benefits to ratepayers under a broad range of scenarios.
- Risk mitigation plan identifying measures to be taken by the utility to reduce the risk of future analysis, development, siting, design, licensing, permitting, construction, and financing cost increases being borne by captive ratepayers.
- Detailed site information that characterizes, among other relevant attributes, the site's geology, hydrology, seismology, and prevalence of extreme weather events.
- Emergency preparedness and local first responder training plans.
- Site security plans.
- Source and quantity of nuclear fuels that will be used by the SMR project over its lifetime.
- Plan for communicating with local communities, including immediately informing local communities of any release of nuclear substances and any other significant threat to public health that occurs.
- Nuclear waste disposal plan.
- Decommissioning plan.
- Assessment of environmental impacts.

Additional Opportunities for Public Input

The siting of an SMR in Indiana should include adequate opportunity to hear from the public. Accordingly, the rule should specify that the IURC shall hold at least three public hearings, including at least one public hearing located in the county in which the SMR would be sited (to allow local community input), and at least one hearing located in the city that has the largest population in the utility's service area (to allow ratepayer input). Notice should be provided for all public field hearings at least 30 days in advance.

Permanent Nuclear Waste Storage Solution

A utility proposing an SMR should demonstrate that it has a permanent storage solution established for all nuclear waste materials (low-, intermediate-, and high-level waste) and that it will not leave any nuclear waste material on-site indefinitely, creating de facto permanent nuclear waste storage sites at power plants in Indiana. SMRs could produce considerable amounts of nuclear waste, as researchers have already found that “SMRs will produce more voluminous and chemically/physically reactive waste than LWRs [light-water reactors], which will impact options for the management and disposal of this waste.”²

NuScale Case Study

NuScale offers an example of the technological uncertainties and cost risks with SMRs that the IURC should take into consideration when crafting its rules. It is currently unknown when NuScale’s 77 MW design will be fully approved, as the Nuclear Regulatory Commission staff listed 99 significant deficiencies in its preapplication Readiness Assessment of the draft application and supporting documentation provided by NuScale.³ Furthermore, like all other SMRs being developed, there is no certainty on the cost until the demonstration project with UAMPS (the Utah municipal power authority) is completed, which is now in question as eight utilities withdrew from the project⁴ and its capacity is currently undersubscribed. UAMPS estimates the total cost at an eye-watering \$9 billion (or more) for a paltry 462 MW of capacity.⁵ NuScale has experienced \$3.1 billion in cost overruns in the design certification phase.⁶

In addition, the Advisory Committee on Reactor Safeguards (ACRS) found significant issues with the design safety component of NuScale’s 50 MW design, which is still an issue in its 77 MW design⁷ which led a member of the ACRS – all experts in various aspects of nuclear power components – to dissent to certify the reactor because it was “too significant a safety issue.”⁸

Conclusion

The CAC appreciates the opportunity to provide these initial comments and looks forward to continuing to engage constructively with the IURC in its development of SMR rule.

² <https://www.pnas.org/doi/10.1073/pnas.2111833119>

³ <https://s3.documentcloud.org/documents/23321003/nuscale-sdaa-preapplication-readiness-assessment-summary-observation-report-final-4.pdf>

⁴ <https://www.powermag.com/shakeup-for-720-mw-nuclear-smr-project-as-more-cities-withdraw-participation/>

⁵ <https://losalamos.legistar.com/View.ashx?M=AO&ID=126470&GUID=1c146a3c-259a-4e77-8960-112d815241da&N=VGFsa2luZyBQb2ludHMgXyBDbGFzcyAzIF8gMjAyMzAxMDIyXyBGaW5hbC5wZGY%3d>

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https://d3n8a8pro7vhmx.cloudfront.net/oregonpsrorg/pages/1625/attachments/original/1598897964/EyesWideShutReport_Final-30August2020.pdf?1598897964

⁷ <https://www.nrc.gov/docs/ML2010/ML20107F849.pdf>

⁸ <https://www.nrc.gov/docs/ML2009/ML20091G387.pdf>