



Rani Franovich, Principal
Nuclear ROSE Consulting, LLC
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Over thirty years of broad experience as a nuclear energy regulator and senior policy advisor. A certified NRC inspector, extensive field experience, knowledge of integrated plant operations. Leadership positions in power reactor license renewal safety and environmental reviews, public outreach, safety culture, reactor oversight, enforcement, allegations, physical security, emergency preparedness, incident response, cultural change, and advanced reactor licensing.

Highlights of Relevant Work Experience

[Nuclear ROSE Consulting, LLC](#), est. 2023

- Owner, principal consultant and expert witness on nuclear regulatory oversight, safety and environmental (ROSE) licensing reviews, risk perception/aversion, and safetyism
- Advise clients on regulatory programs, policies, practices, and protocols
- Inform national policy, legislation, and Congressional oversight of regulatory modernization

The Breakthrough Institute, 2022-2023

- Senior Policy Advisor on safety, regulatory and policy matters for power reactors

U.S. Nuclear Regulatory Commission (NRC), 1991-2021

- Certified inspector with numerous leadership roles in program and executive director offices
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Executive Leadership Certification and Training

The Institute for Ethical Leadership, Rutgers Business School, Rutgers University, Newark, NJ

Executive Ethical Leadership Certificate (2015)

Executive Education, John F. Kennedy School of Government, Harvard University, Boston, MA

Strategic Management of Regulatory and Enforcement Agencies (2009)

Nicholas School of the Environment, Duke University, Durham, NC

The Law of the National Environmental Policy Act (2008)

Implementation of the National Environmental Policy Act (2006)

Memberships

The [New York Regional Expert Witness Association](#)

Secretary, [Advanced Reactors Working Group \(ARWG\)](#), [American Nuclear Society \(ANS\)](#)

[Risk-informed, Performance-based Principles and Policy Committee \(RP3C\)](#), ANS

Working Group, Std 57.11, "Integrated Safety Assessments for Fuel Fabrication Facilities," ANS

Education

B.S. Double Major in Psychology and English, Minor in Sociology, Virginia Tech

M.S. Industrial and Systems Engineering, Human Factors Engineering Option, Virginia Tech

Detailed Relevant Work Experience

Nuclear ROSE Consulting, LLC, 2023 to present

Owner, principal consultant and expert witness on power reactor safety, oversight, and licensing

- Guide new reactor entrants through the safety and environmental regulatory review process
 - Influence national energy policy development to enable nuclear solutions to environmental, public health, and national security challenges
 - Identify regulatory policies, practices and programs that are ripe for modernization
 - Identify legislative opportunities to drive modernization of NRC's regulatory programs, leadership and institutional culture change, and improved organizational effectiveness
 - Advisor for a venture fund that invests in innovative companies and low-carbon technologies
 - Provide expert testimony in legal proceedings and National/State energy policy development
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The Breakthrough Institute, 2022 to 2023

Senior Policy Advisor, Nuclear Energy Innovation

- Influenced national energy policy makers to press for regulatory reforms necessary to enable efficient licensing and safe deployment of new and advanced reactors
 - Frequent writer, commenter, and public speaker on regulatory reforms and modernization needed to meet climate goals, protect public health, and preserve national security interests
 - Corrected misinformation and misperceptions about the risks and benefits of nuclear energy
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U.S. Nuclear Regulatory Commission, 1991 to 2021

Senior Project Manager, Division of New and Renewed Licenses (DNRL), Office of Reactor Regulation (NRR) and Office of New Reactors (NRO), 2016-2021

- Lead Project Manager for pre-application engagement for the GE-Hitachi (GEH) BWRX-300 Small Modular Reactor (SMR)
 - Led and managed the processing and review of topical reports for the BWRX-300 SMR
 - Established and monitored review schedules and fees charged to the applicant
- Led the readiness assessment of the NuScale SMR Design Certification Application (DCA)
- Developed a communication plan for the NuScale SMR DCA review
- Led and managed review activities for the NuScale SMR DCA transient & accident analysis, probabilistic risk assessment (PRA), and associated topical reports

Branch Chief, Project Aim Team, Office of the Executive Director for Operations (OEDO), 2015-6

- Led strategic thinking for communications, cultural change and change management
 - Prepared Congressional correspondence with program offices and Congressional Affairs
 - Developed, maintained and implemented communication strategies and tools

Senior Policy Advisor, Division of Preparedness and Response, Office of Nuclear Security and Incident Response (NSIR), 2014-5

- Led Incident Response Standardization Project as Deputy Chair, Executive Steering Committee to enhance the efficiency and effectiveness of program implementation.
- Led a full-Federal, whole community exercise involving the H. B. Robinson Plant, South Carolina, FEMA, and DOE/National Nuclear Security Administration
 - Leveraged relationships with NRR, Region II and Duke Energy to establish objectives
 - Advised management of opportunities and challenges in planning the exercise

U.S. Nuclear Regulatory Commission (continued)

Chief, Security Training and Support Branch, Division of Security Operations, NSIR, 2014

- Led change in applying appropriate assurance standards in nuclear security oversight
 - Managed the Security Issues Forum for dispositioning unique performance issues
 - Analyzed industry's security performance, identified trends, and prepared the Annual Report to Congress on force-on-force results and security baseline inspection findings
- Developed and maintained a staff of qualified Security Risk Analysts
- Established standards, procedures, and guidance for target set inspections

Chief, Performance Assessment Branch, Division of Inspection & Regional Support, NRR, 2008-14

- Led Reactor Oversight Process (ROP) program managers responsible for Performance Assessment, the Significance Determination Process, Performance Indicators, the Annual ROP Self-assessment Process, the Industry Trends Program, and the Agency Action Review Meeting
- Established the Center of Expertise for Reactor Allegations all reactor program offices
- Established and supervised the Reactor Allegation and Enforcement Team

Chief, Projects Branch 2, Division of License Renewal (DLR)/NRR, 2007-8

- Led project management staff responsible for Vermont Yankee, FitzPatrick, Indian Point, Beaver Valley, and Prairie Island license renewal activities
 - Completed acceptance reviews of license renewal applications
 - Conducted public meetings in the communities surrounding nuclear power plants
 - Provided interviews with local news media (television, radio, and local editorial boards)
 - Coordinated with Federal and State government agencies and Indian Tribes
 - Prepared safety evaluation reports and environmental impact statements
 - Presented staff review findings to the Advisory Committee on Reactor Safeguards

Chief, Environmental Branch B, DLR/NRR, 2005-7

- Led project management staff responsible for preparing Environmental Impact Statements for Brunswick, Nine Mile Point, Monticello, Palisades, Pilgrim, Fitzpatrick, Wolf Creek, Shearon Harris, and Oyster Creek license renewal.
- Aggressively recruited environmental scientists and filled nine vacancies in first year
- Retained new contractors to avoid competition with new reactors for resources

Technical Assistant (Reactors) to Commissioner Jeffrey Merrifield, 2005

- Provided advice on reactor policy, licensing, and oversight matters; the Fatigue Rule; and escalated enforcement for material control and accounting violations at Vermont Yankee

Technical Assistant for Enforcement, NRR, 2003-5

- Advised NRR leadership on reactor enforcement actions and other regulatory matters
 - Developed a Level III violation of 10 CFR 50.9 involving irradiation of mixed oxide fuel
 - Advised NRR on enforcement matters for licensing and 10 CFR 2.206 petitions
 - Facilitated NRR communications with NSIR on post-9/11 security matters
 - Assisted with differing professional opinions

Special Assistant and International Liaison, NRR, July 2003

- Interfaced with senior leadership, international program staff, regional offices, and international regulators to share information on the NRC's regulatory programs and processes

Senior Materials Engineer, License Renewal and Environmental Impacts Program, NRR, 2002-3

- Coached and developed new license renewal project managers and reviewers
- Shared information on the NRC's license renewal program with international regulators

U.S. Nuclear Regulatory Commission (continued)

License Renewal Project Manager, NRR, 2001-2

- Led the NRC's safety review of the McGuire/Catawba license renewal application and prepared NRC staff witnesses for hearings before the Atomic Safety and Licensing Board

Resident Inspector, Catawba Nuclear Station, York, South Carolina, 1995-2001

- Implemented the NRC's Revised Reactor Oversight Program, identified violations of NRC requirements, and documented inspection findings
- Provided prompt onsite response to operational events and emergent operational issues
- Received allegations and conducted follow-up inspections

Project Engineer, Division of Reactor Projects, Region II, 1993-5

- Coordinated inspection activities among inspectors, NRR staff and Region II management
- Obtained power reactor inspector certification

Reactor Engineer Intern, Office of Nuclear Regulatory Research, 1991-3

- Completed technical training and assignments across the NRC including the Region II field office, the Shearon Harris Plant, and NRC's Incident Response Center

Publications, Comments, Testimony, Presentations, Blogs & Webinars

Rani Franovich, "Where is the PB in RIPB? The key to nuclear regulatory modernization that will enable innovation," Blog explores how performance-based (PB) methods can modernize NRC's licensing frameworks to enable innovation as intended by the Nuclear Energy Innovation and Modernization Act of 2019 (NEIMA) and the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act of 2024. The Nuclear ROSE Blog, October 4, 2024. <https://nuclearrosellc.com/our-commentary/f/where-is-the-pb-in-ripb>

Rani Franovich, "My Nuclear Pitch to Virginia Tech," Blog explains why Virginia Tech is perfectly situated and uniquely poised to expand its nuclear engineering program into a preeminent Department of Nuclear Engineering with research reactors at its Blacksburg and Northern Virginia campuses. The Nuclear ROSE Blog, June 12, 2024. <https://nuclearrosellc.com/our-commentary/f/my-nuclear-pitch-to-virginia-tech>

Rani Franovich, "Inaugural Blog: What does "Critical Mass" mean?" Blog explores the concept of "critical mass" in nuclear physics to describe the minimum amount of a fissionable material that will support a self-sustaining chain reaction) and in social theory to explain socio-dynamic phenomena that drive actions and behaviors of large segments of the population. The Nuclear ROSE Blog, June 6, 2024. <https://nuclearrosellc.com/our-commentary/f/inaugural-blog-what-does-critical-mass-mean>

Rani Franovich and N. Prasad Kadambi, "Where is the PB in RIPB? A Sharing of Perspectives... More Discussion than Presentation," A Community of Practice webinar; Risk-informed, Performance-based Principles and Policy Committee (RP3C), American Nuclear Society, May 31, 2024. <https://doi.org/10.21955/nuclscitechnolopenres.1115143.1>
<https://youtu.be/Be5Af-qmnhY>
<https://www.ans.org/news/article-6182/ripb-regulations-are-we-there-yet/>
https://www.linkedin.com/posts/ans-american-nuclear-society_the-latest-in-the-series-of-ans-community-activity-7202435255075520512-WyK/?utm_source=share&utm_medium=member_desktop

Publications, Comments, Testimony, Presentations, Blogs & Webinars (continued)

Rani Franovich, Comment Letter re "Environmental Assessment and Finding of No Significant Impact for the Construction Permits for the Kairos Hermes 2 Test Reactors," Draft Report [Docket ID NRC-2023-0138], May 24, 2024. <https://www.regulations.gov/comment/NRC-2023-0138-0009>

Rani Franovich, Speaker, "The Time is Now: Nuclear Energy's Past, Present, and Promise for the Future," Nuclear Engineering Program Seminar, Department of Mechanical Engineering, Virginia Tech, March 22, 2024. <https://me.vt.edu/news/briefs/rani-franovich-nuclear-seminar-032024.html>
To view a recording of the seminar, request access here:
https://drive.google.com/file/d/1htiQVeRV_dK-qCraLsVdBxvzkwuRlc4n/view?ts=6603a0f0&exids=71471483,71471477

Rani Franovich, invited expert testimony and [support letter](#) to Senators of the Legislative Resolution (LR) 178 Special Committee, Nebraska Unicameral Legislature, re proposed Interim study to create a Select Committee to examine the feasibility of constructing and operating small modular nuclear reactors to generate electric power in Nebraska, October 26, 2023. <https://nebraskalegislature.gov/FloorDocs/108/PDF/Intro/LR178.pdf>

Rani Franovich, Speaker, "Legacy Implications of Today's Regulatory Challenges," Nebraska Advanced Nuclear Forum (NANF), Lincoln, NE, May 23, 2023. <https://advancednuclearcoalition.org/wp-content/uploads/2023/04/2023-NANF-Comp-Agenda-04.24.pdf>

Rani Franovich, Speaker, "Reflections on Advocacy, Public Outreach, and Public Education Campaigns," NANF, Lincoln, NE, May 23, 2023. <https://advancednuclearcoalition.org/wp-content/uploads/2023/04/2023-NANF-Comp-Agenda-04.24.pdf>

Rani Franovich, Guest Lecturer on career path, advocacy, ethics and leadership: "[The Journey From ISE Student to Public Servant and Advocate](#)." Course ISE 2004: Introduction to Industrial and Systems Engineering (ISE), Virginia Tech, April 21, 2023.

Rani Franovich, Guest Panelist offering career advice, discussing ethical situations, and sharing her perspectives on leadership. Course ISE 2004: Introduction to Industrial and Systems Engineering (ISE), Virginia Tech, April 7, 2023.

Rani Franovich, Speaker, "Putting the 'Reasonable' Back into 'Reasonable Assurance of Adequate Protection,'" Regulatory Information Conference, U.S. Nuclear Regulatory Commission, March 16, 2023. <https://nrc.rev.vbrick.com/#/videos/6a490216-6846-4e5a-8e39-0fd66e3c653a>

Rani Franovich and Matthew Wald, "Advanced Nuclear is Good for the World, But Is It Good for the Regulator?" February 6, 2023. <https://thebreakthrough.org/issues/energy/advanced-nuclear-is-good-for-the-world-but-is-it-good-for-the-regulator>

Rani Franovich, Comment Letter re "Reporting Requirements for Nonemergency Events at Nuclear Power Plants" [Regulation Identifier Number RIN-3150-AK71; Docket ID NRC-2020-0036], January 6, 2023. <https://www.nrc.gov/docs/ML2301/ML23011A311.pdf>

Publications, Comments, Testimony, Presentations, Blogs & Webinars (continued)

Rani Franovich, Spoken Comment re "Draft Environmental Impact Statement for the Construction Permit for the Kairos Hermes," November 16, 2022.

<https://www.nrc.gov/docs/ML2232/ML22329A011.pdf>, pp. 33-41

Rani Franovich. Spoken Comment to NRC's Advisory Committee on Reactor Safeguards (ACRS) regarding the proposed rulemaking language for 10 CFR Part 53 and why it failed to provide a risk-informed, performance-based and technology-inclusive regulatory framework for commercial nuclear power plants as mandated by the Nuclear Energy Innovation and Modernization Act of 2019 (NEIMA), November 2, 2022.

<https://www.nrc.gov/docs/ML2234/ML22347A191.pdf>, pp. 102-104

Rani Franovich, Comment Letter re "Comments on NRC's Staff's Preliminary Part 53 Rule Package and October 18-19 ACRS Sub-committee Meeting," November 1, 2022.

<https://www.nrc.gov/docs/ML2300/ML23006A081.pdf>

Rani Franovich. Spoken Comment to NRC's Advisory Committee on Reactor Safeguards, Radiological Rulemaking Policies and Procedures Part 53 Subcommittee, re the Committee's review of the NRC staff's proposed Draft Part 53 rule, October 18-9, 2022.

<https://www.nrc.gov/docs/ML2229/ML22299A184.pdf>, pp. 272-283

Rani Franovich, Comment Letter re "Comments on Preliminary 10 CFR Part 53, 'Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors' [Regulation Identifier Number RIN-3150- AK31; Docket ID NRC-2019-0062]," August 31, 2022.

<https://www.nrc.gov/docs/ML2225/ML22255A008.pdf>

Rani Franovich and Prasad Kadambi, Comment Letter re "Comments on Preliminary 10 CFR Part 53, "Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors" [Regulation Identifier Number RIN-3150-AK31; Docket ID NRC-2019-0062]," August 29, 2022.

<https://www.nrc.gov/docs/ML2225/ML22250A615.pdf>

Rani Franovich, "What Society Needs from 10 CFR Part 53," Risk-informed, Community of Practice webinar, Performance-based Principles and Policy Committee (RP3C), American Nuclear Society, August 26, 2022. <https://doi.org/10.21955/nuclscitechnolopenres.1115120.1>

<https://www.youtube.com/watch?v=erEG4SkHHxI>

Rani Franovich, Comment Letter re "Regulatory Issue Summary (RIS), 'Personnel Access Authorization Requirements for Non-Immigrant Foreign Nationals Working at Nuclear Power Plants' (NRC-2022-0119)," August 12, 2022.

<https://www.nrc.gov/docs/ML2222/ML22228A137.pdf>

Rani Franovich, Spoken Comment re "Public Meeting on the NRC's Draft Regulatory Issue Summary (RIS) Clarification of Personnel Access Authorization Requirements for Non-Immigrant Foreign Nationals Working at Nuclear Power Plants," August 9, 2022.

<https://www.nrc.gov/docs/ML2225/ML22252A174.pdf>, pp. 36-46

Lindsey Walter, Kristn Zaitz, Danielle Delesroth, Isabelle Boemke, Rani Franovich and Ryan Norman "Build Nuclear Now," Webinar launch, August 2, 2022. (Video-recording not publicly available.)

Publications, Comments, Testimony, Presentations, Blogs & Webinars (continued)

N. Prasad Kadambi and Rani Franovich, "A Performance Based Approach for 10 CFR Part 53," A Community of Practice webinar; Risk-informed, Performance-based Principles and Policy Committee (RP3C), American Nuclear Society, July 29, 2022.

<https://doi.org/10.21955/nuclscitechnolopenres.1115119.1>

https://www.youtube.com/watch?v=V-d_r_XBY0

Rani Franovich, Presentation, "What Society Needs from Part 53," [NRC Public Meeting on 10 CFR Part 53](#), July 28, 2022. <https://www.nrc.gov/docs/ML2220/ML22209A004.pdf>, Slides 2-13

Rani Franovich and Steve Burns, Comment Letter re "Subsequent Comment from Stakeholder Groups on Letter Submitted by the American Nuclear Society (ANS) and the Breakthrough Institute (BTI) to the U.S. Nuclear Regulatory Commission on Developing a 'Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors' (Regulation Identifier Number RIN-3150-AK31; Docket ID NRC-NRC-2019-0062)," July 22, 2022.

<https://www.nrc.gov/docs/ML2220/ML22206A212.pdf>

A. Stein, J. Messinger, S. Wang, J. Lloyd, J. McBride and R. Franovich, "Advancing Nuclear Energy: Evaluating Deployment, Investment, and Impact in America's Clean Energy Future," July 6, 2022. <https://thebreakthrough.org/articles/advancing-nuclear-energy-report>

Rani Franovich, Presentation, "Part 53 - Stakeholder Perspectives on Framework B, Framework A, and NRC Stakeholder Engagement Process," [NRC Advanced Reactor Stakeholder Meeting](#), June 30, 2022. <https://www.nrc.gov/docs/ML2218/ML22180A296.pdf>, Slides 36-47

Rani Franovich, "Advanced Nuclear: What's Stopping Us?" Speaking Engagement at Breakthrough Dialogue 2022: Progress Problems, June 23, 2022.

<https://thebreakthrough.org/events/bti-dialogue-progress-problems>

Rani Franovich, Spoken Comment re "Public Meeting to Discuss the Part 53 Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors Rulemaking," June 16, 2022.

<https://www.nrc.gov/docs/ML2217/ML22179A011.pdf>, pp. 81-86 and 115-116

Rani Franovich and Steve Nesbit, Comment Letter re "Joint NGO Concerns Regarding the NRC's Regulatory Engagement in Developing a 'Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors'" [Regulation Identifier Number RIN-3150-AK31; Docket ID NRC-2019-0062]," June 15, 2022. <https://www.nrc.gov/docs/ML2217/ML22172A195.pdf>

Rani Franovich, Comment Letter re Submittal of supplemental comments on draft ISG "Safety Review of Light-Water Power-Reactor Construction Permit Applications," 87 Federal Register 27195 [Docket ID: NRC-2021-0162], May 23, 2022.

<https://www.nrc.gov/docs/ML2215/ML22152A064.pdf>

Rani Franovich and Steve Nesbit, Comment Letter re "Preliminary Proposed Rule Language Part 73 of Title 10 of the Code of Federal Regulations (10 CFR)" (RIN-3150-AK19; NRC-2017-0227), April 27, 2022. <https://www.nrc.gov/docs/ML2212/ML22122A218.pdf>

Publications, Comments, Testimony, Presentations, Blogs & Webinars (continued)

Rani Franovich and Jonah Messinger, "Saving Palisades Nuclear Power Plant To Secure Michigan's Clean Energy Future," Blog argues shutting down the clean energy source will be the equivalent of tearing down almost every wind turbine in the State, April 4, 2022.

<https://thebreakthrough.org/blog/saving-palisades>

Rani Franovich, "One Thing the WaPo's Op-ed on Nuclear Safety Wasn't Built to Survive: Scrutiny." Blog rebuts a Washington Post op-ed on wartime nuclear power plant safety, March 25, 2022.

<https://thebreakthrough.org/blog/one-thing-this-op-ed-on-nuclear-safety-wasnt-built-to-survive-scrutiny>

Rani Franovich, Spoken Comment re NRC's "Forthcoming Public Outreach Meeting on the Proposed Kairos Hermes Test Reactor with Designated Period for Receipt of Environmental Scoping Comments," March 23, 2022. <https://www.nrc.gov/docs/ML2209/ML22091A000.pdf>, pp. 57-60

Rani Franovich, "Take a Deep Breath." Blog rebuts National Public Radio coverage of Zaporizhzhia nuclear power plant fire, March 17, 2022.

<https://thebreakthrough.org/blog/ukraine-nuclear-power-plant-fire>

A. Trembath, S. Wang, J. Messinger, J. Lloyd, V. Ramachandran and R. Franovich, "Energy Security and Decarbonization in Response to Russian Aggression," March 16, 2022.

<https://thebreakthrough.org/issues/energy/report-energy-security-and-decarbonization-in-response-to-russian-aggression>

Adam Stein and Rani Franovich, "WAR IN UKRAINE: Breakthrough Institute Analysts Dr. Stein and Franovich Release Statements on Loss of Offsite Power at Chernobyl," March 10, 2022.

<https://thebreakthrough.org/press/war-in-ukraine-breakthrough-institute-analysts-dr-stein-and-franovich-release-statements-on-loss-of-offsite-power-at-chernobyl>

Adam Stein and Rani Franovich, "NRC revises previously issued subsequent license renewal for existing nuclear power plants." Blog assesses the basis for and impact of NRC Commissioner votes on the Generic Environmental Impact Statement (GEIS) for reactor license renewal, February 16, 2022. <https://thebreakthrough.org/blog/blog-nrc-revises-previously-issued-subsequent-license-renewal-for-existing-nuclear-power-plants>

Rani Franovich, Speaker, "Reactor Oversight Process Enhancement Project," Regulatory Information Conference, U.S. Nuclear Regulatory Commission, March 13, 2014.

<https://www.flickr.com/photos/nrcgov/13270661675/in/photostream/>

Rani Franovich, Speaker, "NRC and Licensee Safety Culture Activities," Regulatory Information Conference, U.S. Nuclear Regulatory Commission, March 12, 2009.

<https://www.slideserve.com/quang/ric-2009-nrc-and-licensee-safety-culture-activities>

T. Bloomer, R. Franovich, P.T. Kuo, and S. Lee, "License Renewal Guidance Documents,"

Conference Proceedings, 16th International Conference on Structural Mechanics in Reactor Technology (IASMIRT-16), August 12, 2001. <https://repository.lib.ncsu.edu/handle/1840.20/30551>