

## Advanced Reactor Program - Summary of Integrated Schedule and Regulatory Activities\*

				<b>Legend</b>
Strategy 1	Knowledge, Skills, and Capability		Concurrence (Division/Interoffice)	● EDO Concurrence Period
Strategy 2	Computer Codes and Review Tools		Federal Register Publication	■ Commission Review Period**
Strategy 3	Guidance		Public Comment Period	▼ ACRS SC/FC (Scheduled or Planned)
Strategy 4	Consensus Codes and Standards		Draft Issuance of Deliverable	◀ External Stakeholder Interactions
Strategy 5	Policy and Key Technical Issues		Final Issuance of Deliverable	↓ Public Meeting (Scheduled or Planned)
Strategy 6	Communication			

Version

		Present Day																												9/24/21
Strategy	Regulatory Activity	Commission Papers	Guidance	Rulemaking	NEIMA	Complete	2021												2022											
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Development of non-Light Water Reactor (LWR) Training for Advanced Reactors (Adv. Rx's) (NEIMA Section 103(a)(5))					x																								
	FAST Reactor Technology				x	x																								
	High Temperature Gas-cooled Reactor (HTGR) Technology				x	x																								
	Molten Salt Reactor (MSR) Technology				x	x																								
	Competency Modeling to ensure adequate workforce skillset					x																								
2	Identification and Assessment of Available Codes					x																								
	Development of Non-LWR Computer Models and Analytical Tools																													
	Code Assessment Reports Volume 1 (Systems Analysis)					x																								
	Reference plant model for Heat Pipe-Cooled Micro Reactor					x																								
	Reference plant model for Sodium-Cooled Fast Reactor					x																								
	Reference plant model for Molten-Salt-Cooled Pebble Bed Reactor					x																								
	Reference plant model for Monolith-type Micro-Reactors																													
	Reference plant model for Gas-Cooled Pebble Bed Reactor																													
	Code Assessment Reports Volume 2 (Fuel Perf. Analysis)					x																								
	FAST code assessment for metallic fuel					x																								
	FAST code assessment for TRISO fuel					x																								
	Code Assessment Reports Volume 3 (Source Term Analysis)					x																								
	Non-LWR MELCOR (Source Term) Demonstration Project					x						↓	↓	↓																
	Reference SCALE/MELCOR plant model for Heat Pipe-Cooled Micro Reactor					x																								
	Reference SCALE/MELCOR plant model for High-Temperature Gas-Cooled Reactor					x																								
	Reference SCALE/MELCOR plant model for Molten Salt Cooled Pebble Bed Reactor					x																								
	Reference SCALE/MELCOR plant model for Sodium-Cooled Fast Reactor																													
	Reference SCALE/MELCOR plant model for Molten Salt Fueled Reactor																													
	MACCS radionuclide screening analysis																													
	MACCS near-field atmospheric transport and dispersion model assessment					x																								
	MACCS radionuclide properties on atmospheric transport and dosimetry																													
	MACCS near-field atmospheric transport and dispersion model improvement					x																								
	Code Assessment Report Volume 4 (Licensing and Siting Dose Assessments)							▼																						
	Phase 1 – Atmospheric Code Consolidation																													
	Code Assessment Report Volume 5 (Fuel Cycle Analysis)					x		▼																						
	Research plan and accomplishments in Materials, Chemistry, and Component Integrity for Adv. Rx's.					x																								
	Research on risk-informed and performance-based (RIPB) seismic design approaches and adopting seismic isolation technologies																													

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9/24/21

[illegible]

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Strategy 2	Computer Codes and Review Tools				
Strategy 3	Guidance				
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4	Develop Regulatory Guide for endorsement of the non-LWR Probabilistic Risk Assessment Standard		x					↓							↓	▼	↓													
	Develop Regulatory Guide for endorsement of the ASME Section III, Division 5 Standard		x				↓						▼									▼								
	Alloy 617 Code Cases (N-872 and N-898)																					▼								
	Develop Draft Guide endorsing ASME Section XI Division 2 Reliability and Integrity Management (RIM)																													
5	Develop SECY paper related to Consequence Based Security (SECY-18-0076)					x																								
	Develop SECY paper related to EP for Small Modular Reactors and Other New Technologies (SECY-18-0103)				x	x																								
	Develop SECY paper related to Functional Containment (SECY-18-0096)				x	x																								
	SECY-20-0093 Policy and Licensing Considerations related to Micro Reactors	x				x																								
	Report regarding review of the insurance and liability for advanced reactors (Price-Anderson Act)	x																												
	Annual Fees for Non-Light Water Reactors and Microreactors									↓			↓																	
	Develop SECY Paper regarding Population-Related Siting Considerations for Advanced Reactors	x																												
6	Develop annual SECY paper regarding status of non-LWR activities	x																												
	NRC DOE Workshops					x																								
Rulemaking	Part 53 Plan - Risk-Informed, Technology Inclusive Regulatory Framework for Advanced Reactors (NEIMA Section 103(a)(4))			x	x																									
	Public Meetings						↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓												
	ACRS Interactions						▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼										
	Physical Security for Advanced Reactors		x																											
	Develop draft Generic Environmental Impact Statement for Advanced Reactors. Final GEIS.*(Has been voted to rulemaking by Comm.)									↓			↓																	
	Emergency Preparedness Requirements for Small Modular Reactors and Other New Technologies.(NEIMA Section 103(a)(2))			x	x										▼	▼	▼	▼												

\*Dates reflected above are best estimates. Actual dates will be updated as additional information becomes available.

\*\*The timeframe for the Commission's review is for planning purposes only, and does not reflect an expected date for Commission decision.

For additional technical and policy issues related to Adv. Rxs, please visit:

<https://www.nrc.gov/reactors/new-reactors/smr.html#techPolicyIssues>