

Advanced Reactor Content of Application
Project (ARCAP) Interim Staff Guidance
(ISG) Documents and Technology Inclusive
Content of Application Project (TICAP)
Draft Guide



Purpose

- Provide an opportunity for stakeholders to discuss their comments submitted on the nine Advanced Reactor Content of Applications/Technology Inclusive Content of Applications Interim Staff Guidance (ISG) documents and the Draft Regulatory Guide (DG-1404)
- Comment period closed August 10, 2023
 - Comment period was extended from July 10, 2023, based on stakeholder requests
- Only comments that were submitted in response to the May 25, 2023, Federal Register Notices will be discussed in the meeting

Background – How to Access Documents and Comments

- All ten documents were reissued in May of 2023 (ADAMS Package No. [ML23044A038](#)).
- Table Below provides links to the May 25, 2023, *Federal Register* Notices and the Regulations.gov Docket IDs

ARCAP ISG Title	ADAMS Accession #	<i>Federal Register</i> #	Regulations.gov Docket ID No.
DANU-ISG-2022-01, Review of Risk-Informed, Technology-Inclusive Advanced Reactor Applications - Roadmap	ML22048B546	88 FR 33924	NRC-2022-0074
DANU-ISG-2022-02, Chapter 2, “Site Information”	ML22048B541	88 FR 33940	NRC-2022-0075
DANU-ISG-2022-03, Chapter 9, “Control of Routine Plant Radioactive Effluents, Plant Contamination and Solid Waste	ML22048B543	88 FR 33930	NRC-2022-0076
DANU-ISG-2022-04, Chapter 10, “Control of Occupational Doses”	ML22048B544	88 FR 33936	NRC-2022-0077
DANU-ISG-2022-05, Chapter 11, “Organization and Human-System Consideration”	ML22048B542	88 FR 33928	NRC-2022-0078
DANU-ISG-2022-06, Chapter 12, “Post Construction Inspection, Testing and Analysis Program”	ML22048B545	88 FR 33920	NRC-2022-0079
DANU-ISG-2022-07, “Risk-Informed ISI/IST Programs”	ML22048B549	88 FR 33938	NRC-2022-0080
DANU-ISG-2022-08, “Licensing Modernization Project-based Approach for Developing Technical Specifications”	ML22048B548	88 FR 33926	NRC-2022-0081
DANU-ISG-2022-09, “Risk-Informed, Performance-Based Fire Protection Program (for Operations)”	ML22048B547	88 FR 33922	NRC-2022-0082
Draft Regulatory Guide 1404, “Guidance for a Technology Inclusive Content of Application Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Advanced Reactors”	ML22076A003	88 FR 33846	NRC-2022-0073

ARCAP/TICAP Background

- Guidance for developing and reviewing technology-inclusive, risk-informed, and performance-based non-light water (non-LWR) applications
- Being developed to support 10 CFR Part 50 and 10 CFR Part 52 applications
 - Needed to support expected near-term non-LWR Part 50/52 applications using the licensing modernization project (LMP) process in NEI 18-04, Revision 1
- The NRC staff intends to revise the guidance per the final Part 53 rulemaking language

TICAP Background

- TICAP scope is governed by the LMP-based process
 - LMP uses risk-informed, performance-based approach to select licensing basis events, develop structures, systems, and components (SSC) categorization, and ensure that defense-in-depth is considered
- Industry developed key portions of TICAP guidance
 - See NEI 21-07, Revision 1, “Technology Inclusive Guidance for Non-Light Water Reactors Safety Analysis Report Content for Applicants Utilizing NEI 18-04 Methodology,” (ADAMS Accession No. [ML22060A190](#))
- DG 1404 proposes to endorse NEI 21-07, Revision 1, with clarifications and additions

ARCAP Background

- Broad in nature and intended to cover guidance for non-LWR applications for:
 - combined licenses
 - construction permits
 - operating licenses
 - design certifications
 - standard design approvals
 - manufacturing licenses
- Encompasses TICAP
 - TICAP is guidance for off-normal reactor states only. ARCAP encompasses everything needed for a license application.

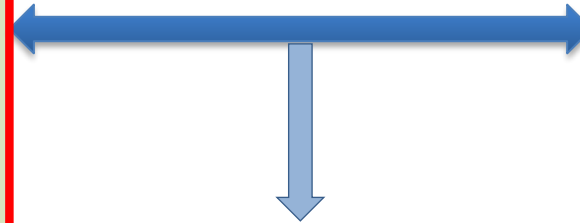
ARCAP and TICAP - Nexus

Outline Safety Analysis Report (SAR) – Based on TICAP Guidance

1. General Plant Information, Site Description, and Overview
2. Methodologies and Analyses and Site Information*
3. Licensing Basis Event (LBE) Analysis
4. Integrated Evaluations
5. Safety Functions, Design Criteria, and SSC Safety Classification
6. Safety Related SSC Criteria and Capabilities
7. Non-safety related with special treatment SSC Criteria and Capabilities
8. Plant Programs

Additional SAR Content –Outside the Scope of TICAP

9. Control of Routine Plant Radioactive Effluents, Plant Contamination, and Solid Waste
10. Control of Occupational Doses
11. Organization and Human-System Considerations
12. Post-construction Inspection, Testing and Analysis Programs



Audit/inspection of Applicant Records

- Calculations
- Analyses
- P&IDs
- System Descriptions
- Design Drawings
- Design Specs
- Procurement Specs
- Probabilistic Risk Assessment

Additional Portions of Application

- Technical Specifications
- Technical Requirements Manual
- Quality Assurance Plan (design)
- Fire Protection Program (design)
- Quality Assurance Plan (construction and operations)
- Emergency Plan
- Security Plan
- Cyber Security Plan
- SNM physical protection program
- SNM material control and accounting
- Fire Protection Program (operational)
- Radiation Protection Program
- Offsite Dose Calculation Manual
- Inservice inspection/Inservice testing (ISI/IST) Program
- Environmental Report and Site Redress Plan
- Financial Qualification and Insurance and Liability
- Fitness for Duty Program
- Aircraft Impact Assessment
- Performance Demonstration Requirements
- Nuclear Waste Policy Act
- Operational Programs
- Exemptions, Departures, and Variances)

* SAR Chapter 2 derived from TICAP guidance as supplemented by ARCAP interim staff guidance Chapter 2, "Site Information"

- Safety Analysis Report (SAR) structure based on clean sheet approach
- Additional contents of application may exist only in the SAR, may be in a separate document incorporated into the SAR, or may exist only outside the SAR.
- The above list is for illustration purposes only.

Discussion of Comments