U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Technology Inclusive Content of Application Project Workshop

May 11, 2021
Microsoft Teams Meeting
Bridgeline: 301-576-2978
Conference ID: 247 522 004#

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Agenda

Time	Topic*	Speaker
10:00 - 10:15 am	Opening Remarks	NRC/Southern
10:15 - 12:00 am	First Workshop Session. The topic# is based on the list of topics found in a document available in ADAMS at Accession No. ML21120A057 Topic #2 – Source term Topic #4 – Concerns with reference to modular high temperature gas cooled reactor reference to preliminary safety information document Topic #8 – Treatment of material incorporated by reference Topic #14 – Scope of guidance Topic #15 – Lack of entries for design certification Topic #19 – Inclusion of tables where feasible instead of referencing them	NRC/Southern
12:00 - 1:00 pm	Break	All
1:00 -2:45 pm	Second Workshop Session Topics Topic #7 – First-of-a-kind guidance for combined license, design certification and construction permit/operating license applications Topic #9 – Reliability and availability targets Topic #10 – Process vs. results and capturing integrated decision making process (IDP) decisions (Note: the staff will attempt to keep the discussion of topics #10, 12 and 16 in the same session) Topic #12 – Defense-in-depth guidance Topic #16 – Design Certification and defense-in-depth guidance	NRC/Southern
2:45 - 3:30 pm	BREAK	All
3:30 - 5:15 pm	Third Workshop Session Topics Topic #3 – Guidance in several areas appears to be too general	NRC/Southern
5:15 - 5:30 pm	Plans for Future Workshops	NRC/Southern
5:30 - 6:00 pm	Stakeholder Comments/Questions	All

***Note that the list of topics to be discussed during the allotted time slot is subject to change. Additional detail regarding the list of topics can be found at ADAMS Accession No. ML21120A057**

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TICAP / ARCAP

- Advanced Reactor Content of Application Project (ARCAP)
  - Purpose is to develop technology-inclusive, risk-informed and performance based application guidance
  - Being developed to support 10 CFR Part 50, Part 52, and Part 53 applications
    - Near-term need to develop guidance to support expected advanced reactor Part 50/52 applications using the licensing modernization project (LMP) process endorsed in RG 1.233
    - Guidance will be updated as Part 53 rulemaking language is adjusted
  - Encompasses Technology Inclusive Content of Application Project (TICAP)
- TICAP
  - Scope is governed by the LMP-based safety case
    - LMP process uses risk-informed, performance based approach to select licensing basis events, develop SSC categorization and ensures defense-in-depth is considered
  - Industry developing key portions of TICAP guidance
  - Industry guidance will be supplemented by NRC staff-developed guidance as appropriate

ARCAP

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

1. General Plant Information, Site Description, and Overview of the Safety Case
2. Generic Analyses
3. Licensing Basis Event (LBE) Analysis
4. Integrated Plant Analysis
5. Safety Functions, Design Criteria, and SSC Categorization
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
12. Initial Startup Programs

Audit/inspection of Applicant Records

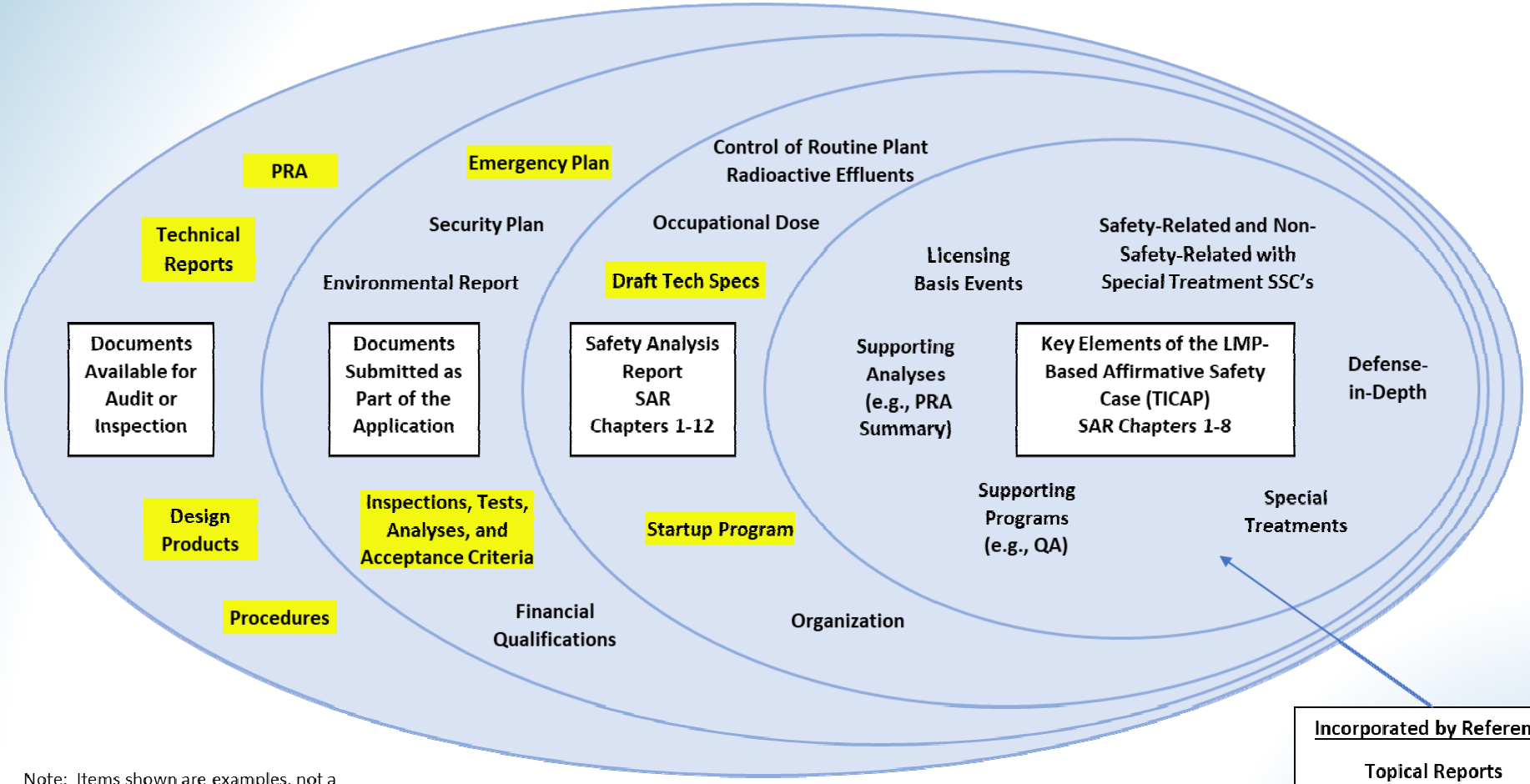
- Calculations
- Analyses
- P&IDs
- System Descriptions
- Design Drawings
- Design Specs
- Procurement Specs

Additional Portions of Application

- Technical Specifications
- Technical Requirements Manual
- Quality Assurance Plan (design)
- Fire Protection Program (design)
- PRA
- Quality Assurance Plan (construction and operations)
- Emergency Plan
- Physical Security Plan
- SNM physical protection program
- SNM material control and accounting plan
- Cyber Security Plan
- Fire Protection Program (operational)
- Radiation Protection Program
- Offsite Dose Calculation Manual
- Inservice inspection/Inservice testing (ISI/IST) Program
- Environmental Report
- Site Redress Plan
- Exemptions, Departures, and Variances
- Facility Safety Program (under consideration for Part 53 applications)

- Safety Analysis Report (SAR) structure based on clean sheet approach

Visual Depiction of TICAP Guidance in Context of an Advanced Reactor Application (Taken from Industry TICAP presentation)



Note: Items shown are examples, not a complete list. Highlighted items may also support the LMP-Based Affirmative Safety Case even though they are not inside the TICAP area.

* Special treatments include quality assurance, reliability assurance, protection against design basis external events, equipment qualification, in-service inspection, etc., as described in NEI 18-04 Table 4-1.

TICAP Workshop

- The purpose of this workshop is to discuss with the nuclear industry issues related to the draft guidance document for Safety Analysis Report (SAR) content for an advanced reactor application based on the licensing modernization project
- Key documents associated with the workshop are referenced in the meeting notice and include:
  - Industry-developed draft TICAP guidance document (ADAMS Accession No. ML21106A013)
  - Potential Issues to be Discussed During TICAP Workshops (ADAMS Accession No. ML21120A057)
- Additional Background Available on NRC ARCAP/TICAP public webpage (see: https://www.nrc.gov/reactors/new-reactors/advanced/details.html#advRxContentAppProj)

Next Steps – Future Milestones

TICAP Near-Term Milestones
May 19, 2021 (Workshop #2)
May 26, 2021 (Workshop #3)
Early June 2021 (NRC staff comments on draft guidance document provided to industry)
Late July 2021 (Industry revised guidance provided to the NRC)