Advanced Reactor Content of Application Project Public Meeting

June 12, 2020
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Agenda

Time	Topic	Presenter
10:00 - 10:10 am	Introduction	NRC
10:10 – 10:40 am	Discussion of ARCAP concepts	NRC
10:40 -11:40 am	Overview of NRC's vision on the broad scope and intended benefits of ARCAP. Focused discussion of draft Chapter 8 for insights on a more performance based approach to regulatory compliance, considering both normal operations and applicable licensing basis events.	NRC
11:40 - 12:00 pm	Feedback on Industry comments on annotated outline provided during 4/22 meeting	NRC/INL
12:00 -1:00 pm	Break	All
1:00 - 1:20 pm	Feedback from Nuclear Energy Institute (NEI) on updated annotated outline presented during 4/22 meeting	NEI
1:20 - 1:30 pm	Discussion of NRC questions from 4/22 meeting	NRC
1:30 - 1:50 pm	NEI feedback on NRC questions from 4/22 meeting	NEI
1:50 - 2:10 pm	U.S, Nuclear Industry Council (NIC) feedback on NRC questions from 4/22 meeting	NIC
2:10 - 2:30 pm	Other stakeholder feedback on NRC questions from 4/22 meeting	All
2:30 - 2:45 pm	TICAP/ARCAP next steps (options) • Separate TICAP and ARCAP guidance • Keep TICAP and ARCAP guidance together • Other	NRC
2:45 - 3:00 pm	Next meeting and concluding remarks	All

Discussion of Advanced Reactor Content of Application Project Concepts

Objective

- Provide background and context for staff's activities related to initiative on Advanced Reactor Content of Applications Project (ARCAP)

- Licensing Modernization Project
  - NEI 18-04
  - DG-1353 (RG 1.233)
  - SECY-19-0117
  - Focus on unplanned events (licensing basis events or LBEs)
    - The entire collection of event sequences considered in the design and licensing basis of the plant, which may include one or more reactor modules. LBEs include AOOs, DBEs, BDBEs, and DBAs. (NEI 18-04)
    - Radiological effluents from normal operation, while important to plant design and licensing decisions, are outside the scope of this paper. (SECY-19-0117)

- Technology-Inclusive Content of Applications Project (TICAP)
  - Building from Licensing Modernization Project (NEI 18-04)

- ARCAP
  - Envisioned to be endorse TICAP for licensing basis event portions of safety analysis reports
  - Envisioned to address normal operation/effluents and other selected areas (e.g., Technical Specifications)

- Technology-Inclusive Regulatory Framework (Part 53)

DG-1353 (Regulatory Guide 1.233)

- Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light Water Reactors

- This RG provides guidance for informing the licensing basis and determining an appropriate level of information for parts of preliminary or final safety analysis reports for advanced non-LWRs. The regulations at 10 CFR 50.34(a), 10 CFR 50.34(b), 10 CFR 52.47, 10 CFR 52.79, and 10 CFR 52.157 require that applications for a construction permit, operating license, DC, COL, or ML, respectively, include the level of design information sufficient to enable the Commission to reach a conclusion on safety questions before issuing a license or certification. Applications for an SDA are likewise required by 10 CFR 52.137 to include information needed for NRC staff approval.

- The integrated process described in NEI 18 04 and its consideration of plant capabilities and programmatic controls for non-LWRs is well suited to inform the content of applications, including discussions of appropriate performance based controls of ancillary SSCs, thereby reducing the level of detail in the descriptions of the physical systems. The general guidance on the content of applications provided in this RG will need to be supplemented by other RGs and documents to help non-LWR developers and the NRC staff prepare and review applications for licenses, certifications, and approvals.

DG-1353 (Regulatory Guide 1.233)

- Provides guidance for non-LWR reactor designers and the NRC staff in the key areas of selecting and evaluating LBEs, identifying safety functions and classifying SSCs, selecting special treatment requirements, identifying appropriate programmatic controls, and assessing DID. Taken together, these activities provide essential insights for the reactor design process, define needed SSC capabilities and programmatic controls, and support documenting the safety arguments supporting applications for licenses, certifications, or approvals.

- Limits on operation [preventing failures or degradation or to remain within the bounds of testing or qualification of related SSCs] thus establish the safety functions needed to prevent damage to barriers to the release of radionuclides (e.g., functions to maintain integrity of fuel cladding, coatings, or other fuel system boundary). This information is needed to address the NEI 18 04 methodologies and for the development of a mechanistic source term for the specific non-LWR design.

DG-1353 (Regulatory Guide 1.233)

- This guidance focuses on the design features, programmatic controls, and licensing decisions related to limiting the unplanned release of radioactive material resulting from plant transients and postulated accidents. Various NRC regulations and related guidance address radiological effluents from normal operation and the content of applications provided in licensing basis documents other than Final Safety Analysis Reports (e.g., security plans, technical specifications, and environmental reports). RG 1.206 describes various licensing basis documents and a typical organization of those documents within applications for a combined license, early site permit, or design certification. The overall organization of applications described in RG 1.206, including chapter-level organization of a final safety analysis report, is generally applicable to non-LWR applications.

- A description of ancillary plant systems or the interface between the ancillary and primary plant systems should focus on any safety functions being supported and possible contributions to initiating events. Where SSCs do not play a meaningful role in preventing or mitigating LBEs, minimal information on those SSCs should be provided within an application.

DG-1353 (Regulatory Guide 1.233)

- The level of detail for ancillary SSCs can also reflect potential performance based approaches within applications for licenses, certifications, or approvals. Guidance for NRC staff reviews of advanced reactors encourages the staff to consider performance-based approaches, which can likewise be used to inform the appropriate level of detail in applications. Part 2 to the Introduction to NUREG-0800 for light water small modular reactors includes the following guidance on the use of performance based approaches as part of an integrated review for small modular reactors:

> Second, the framework incorporates an integrated review approach by using the satisfaction of selected requirements to provide reasonable assurance of some aspects of SSC performance (for example, performance based acceptance criteria related to SSC capability, reliability, and availability). Examples of requirements that could be applied for this purpose include 10 CFR Part 50, Appendix A (general design criteria, overall requirements, criteria 1 through 5), 10 CFR Part 50, Appendix B (quality assurance program), 10 CFR 50.49 (electric equipment environmental qualification program), 10 CFR 50.55a (code design, inservice testing and inservice inspection programs), 10 CFR 50.65 (maintenance rule), Technical Specifications (TSs), Availability Controls for SSCs subject to Regulatory Treatment of Non-Safety Systems (RTNSS), the Initial Test Program (ITP), and ITAAC. In preparing the safety evaluation for the application, the staff may use the satisfaction of these selected requirements to augment or replace, as appropriate, technical analysis and other evaluation techniques to obtain reasonable assurance that the performance-based acceptance criteria are satisfied. Under the framework, the staff also has the flexibility to use these selected requirements to demonstrate satisfaction of design based acceptance criteria for the SSCs with low risk significance. The staff will verify the demonstration of the design basis capabilities of SSCs that are important to safety as part of the ITAAC completion review prior to plant operation.

SECY-19-0117

- The purpose of this paper [SECY-19-0117] is to request that the Commission find that the U.S. Nuclear Regulatory Commission (NRC) staff's use of the technology-inclusive, risk-informed, and performance-based methodology described in this paper is a reasonable approach to establish key parts of the licensing basis and content of applications for licenses, certifications, and approvals for non-light-water reactors (non-LWRs). Related industry guidance was developed as part of the Licensing Modernization Project (LMP), a cost-shared initiative led by nuclear utilities and supported by the U.S. Department of Energy (DOE).

- The major elements of the methodology are identifying licensing basis events (LBEs); classifying structures, systems, and components (SSCs); and assessing the adequacy of defense in depth (DID).

- The development and approval of the methodology described in this paper will also be part of the NRC's response to Section 103, "Advanced Nuclear Reactor Program," of the Nuclear Energy Innovation and Modernization Act (Public Law No: 115-439), which requires the NRC to (1) within 2 years develop and implement, where appropriate, strategies for the increased use of risk-informed, performance-based licensing evaluation techniques and guidance for commercial advanced nuclear reactors within the existing regulatory framework; and (2) complete a rulemaking by December 31, 2027, to establish a technology-inclusive, regulatory framework for optional use by commercial advanced nuclear reactor applicants for new reactor license applications.

SECY-19-0117

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SECRETARY

May 26, 2020

MEMORANDUM TO: Margaret M. Doane
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary

Annette L. Vietti-Cook
Digitally signed by Annette L. Vietti-Cook
Date: 2020.05.26 11:20:49 -04'00'

SUBJECT: STAFF REQUIREMENTS – SECY-19-0117 – TECHNOLOGY-INCLUSIVE, RISK-INFORMED, AND PERFORMANCE-BASED METHODOLOGY TO INFORM THE LICENSING BASIS AND CONTENT OF APPLICATIONS FOR LICENSES, CERTIFICATIONS, AND APPROVALS FOR NON-LIGHT-WATER REACTORS

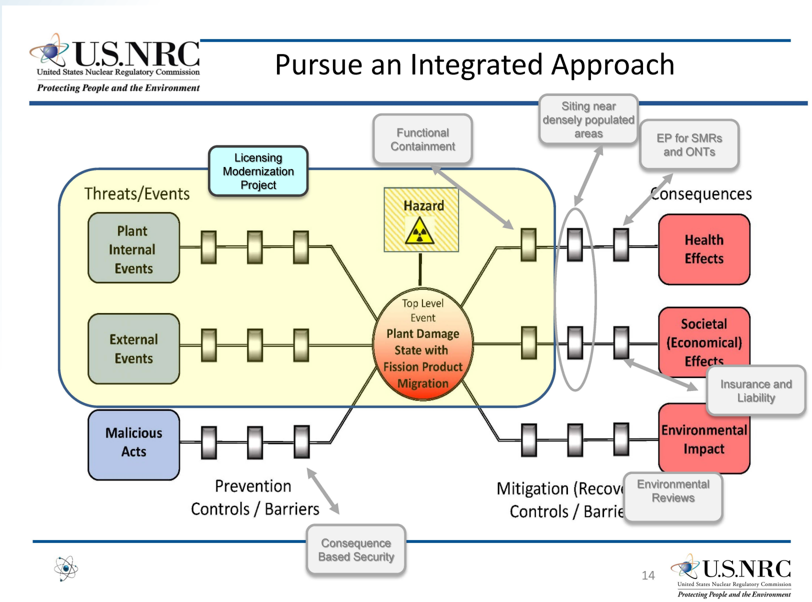
The Commission has approved the use of the technology-inclusive, risk-informed, and performance-based methodology described in this paper as a reasonable approach for establishing key parts of the licensing basis and content of applications for licenses, certifications, and approvals for non-light-water reactors.

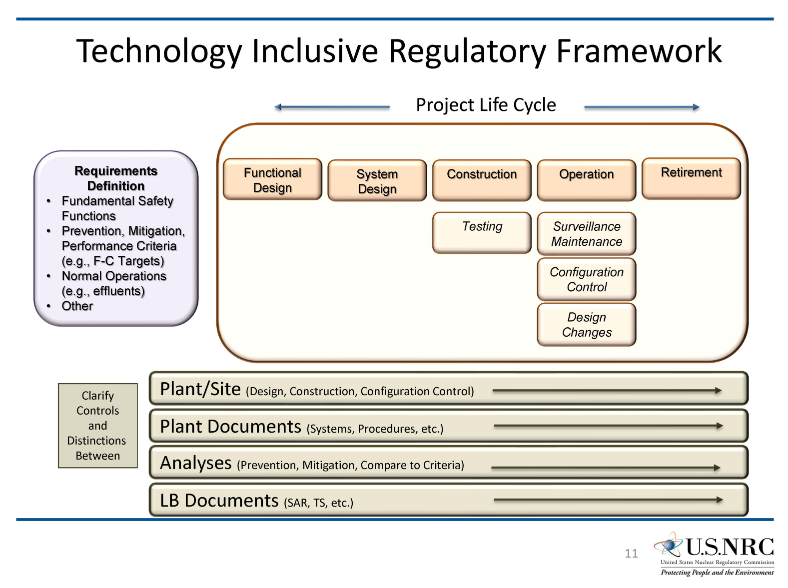
The staff should remain open to continuous, critical examination of its thinking regarding approaches and metrics for the licensing of this coming class of advanced reactors.

In its work on the regulatory framework for advanced reactors, the staff should continue to recognize that the Commission's established policy on the application of the safety goals and safety performance expectations provides an acceptable minimum safety standard for new reactors while taking into account the need to adapt the aspects of our current regulatory framework for reactors that provide operational flexibility based on risk assessment, such as the more than minimal increases in risk test in Section 50.59, the Maintenance Rule of Section 50.65, and the quality assurance criteria of Appendix B to reflect the significantly lower risks inherent in the design of advanced reactors.

Technology-Inclusive Regulatory Framework (Part 53)

- SECY-20-0032
  - Rulemaking Plan on "Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (RIN-3150-AK31; NRC-2019-0062)





Normal operations/effluents

Other regulatory/licensing topics

Continuity: Desire to use RG 1.233 and Subsequent RGs (TICAP/ARCAP) as guidance for Part 53

Vision and Intended Benefits of Advanced Reactor Content of Application Project

Advanced Reactor Content of Applications

- Staff's draft outline was discussed on Dec. 12 and is found in ADAMS at Accession No. ML19325C089

- Draft outline addresses Sections 1 through 14
  - Final safety analysis report (FSAR) portion of application

- Staff's draft outline "annotated" to suggest additional background and clarification regarding FSAR section content
  - Initially discussed in April 22 public meeting with stakeholders
  - Annotated outline is found in ADAMS at Accession No. **ML20107J565**
  - Continues to include a summary listing of other (non-FSAR) portions of an application for completeness

NEI 18-04 Background

The NEI 18-04 approach provides a repeatable method for addressing the following broad questions:

- o What are the plant Initiating Events and event sequences that are associated with the design?
- o How does the proposed design and its SSCs respond to Initiating Events and event sequences?
- o What are the margins provided by the facility's response, as it relates to prevention and mitigation of radiological releases within prescribed limits in the protection of public health and safety?
- o Is the philosophy of DID adequately reflected in the design and operation of the facility?

These questions are primarily associated with the assessment of licensing basis events (LBEs) as they relate to protection of the public

Other FSAR Considerations

Other areas must also be addressed in the FSAR, including for instance, various issues and controls associated with normal operations

- Excerpts from 50.34 (b) regarding required FSAR content: *The final safety analysis report shall include information that describes the facility, presents the design bases and the limits on its operation, and presents a safety analysis of the structures, systems, and components and of the facility as a whole, and shall include the following:*
  - *(3) The kinds and quantities of radioactive materials expected to be produced in the operation and the means for controlling and limiting radioactive effluents and radiation exposures within the limits set forth in part 20 of this chapter.*

ARCAP Chapter 8 Background

- NEI 18-04 utilizes Part 20 as the basis for one of its cumulative risk metrics when evaluating LBEs
- Since Part 20 provides annual exposure limits both for abnormal and normal operation, compliance must be evaluated and demonstrated through both the integrated consideration of associated LBEs resulting from application of the NEI 18-04 process, as well as the effluent releases from normal operations

ARCAP Chapter 8 Background - continued

- Similar to LMP, application guidance for Part 20 requirements regarding normal operation can be addressed through a performance-based approach
- This suggests that the “LMP” and “non-LMP” portions of the FSAR must be closely coordinated for this topical area

ARCAP Chapter 8 Excerpt

Background

A portion of the currently envisioned content of the draft ARCAP Chapter 8 (control of effluents) has been further examined and refined using a more performance-based approach to improve overall project alignment among the integrated scope and purpose of TICAP & ARCAP

Developing Performance-Based Approaches

Outline (FSAR) - LMP areas highlighted

Introduction
1. General Information*
2. Site Information
3. Licensing Basis Event (LBE) Analysis*
4. Integrated Plant Analysis*
5. Description and Classification of SSCs*
6. Design Basis Accidents Analysis (10 CFR 50.34)*
7. Defense in Depth (DID)*
8. Control of Routine Plant Radioactive Effluents &Solid Waste
9. Control of Occupational Dose
10. Human Factors Analysis*
11. Physical Security
12. Overview of PRA*
13. Administrative Control Programs* *(special treatment)*
14. Initial Startup Programs* *(special treatment)*

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
- Fuel qualification report
- Exemptions
- Quality Assurance Plan (construction and operations)
- Emergency Plan
- Physical Security Plan
- SNM physical protection program
- SNM material control and accounting plan
- Cyber Security Plan
- New fuel shipping 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

Underlying regulatory requirements & guidance supporting possible performance-based licensing approach for areas outside scope of TICAP; for instance:
- Part 20 monitoring & reporting
- 10 CFR 50.36a (effluents – monitoring and reporting)

Also – many of the “additional portions” topics above must be included in the application to address the corresponding regulations (QA, Security, etc.)

Example Approaches for Non-LMP SAR Content

(Chapter 8 – Radioactive Waste Disposal)

Approach	Content of Application	Comments
1) Use Existing ARCAP Chap 8 Guidance. SAR Contains Analysis and Design Info to Demonstrate System Performance.	• Use guidance in current annotated outline. • Requires analysis and SSCs demonstrating compliance with regs be described in the SAR. • Monitoring described in Radiation Protection Program.	• Allows some reduction from RG 1.206 and SRP guidance based upon risk significance. • Post OL performance monitoring verifies compliance. • Must comply with Pt 20 req'ts.
2) Performance-Based with Analysis to Demonstrate System Performance. Limited Design Info.	• Requires analysis demonstrating compliance with regulations be described in the SAR. • Only SSC descriptions necessary to support analysis need be described in the SAR. • Monitoring described in Radiation Protection Program.	• Requires some design detail be in the SAR. • Post OL performance monitoring verifies compliance. • Must comply with Pt 20 req'ts.
3) Reduced SAR Content Based on the Use of Performance-Based Regulation.	• Requires summary description of systems. • Analysis req'd by Pt 20 not included in SAR. • Monitoring program sufficient to demonstrate compliance with regs described in the SAR.	• Reduced amount of info in SAR. • Compliance with regulations not demonstrated in SAR. • Post OL performance monitoring used to demonstrate compliance with requirements. • Must comply with Pt 20 req'ts.

ARCAP Approach – More Performance Based?

- Recent precedent and associated expectations regarding scope and content may be excessive for this portion of the FSAR (traditionally Chapters 11 & 12). For instance, NUREG-0800 includes expectations for describing:

  - *Quality assurance (QA) provisions for radioactive waste management structures, systems, and components (SSCs) in support of design criteria using the guidelines of RG 1.143 for liquids and liquid wastes produced during normal operation, including AOOs*

  - *Types and characteristics of filtration, ion-exchange resins, and adsorbent media to treat liquid process and effluent streams, including expected removal efficiencies, decontamination factors, holdup or decay times, and the applications of these characteristics in estimating releases by specific waste streams and treatment methods. The information describing the types of proposed filtration and adsorption media should include details from the applicant or suppliers, as generic or plant-specific information, in characterizing removal efficiencies, decontamination factors, and holdup or decay times.*

  - *Availability of standby equipment, alternate processing routes, and interconnections between permanently installed subsystems and skid-mounted processing equipment in order to evaluate the overall system capability to meet anticipated demands imposed by major processing equipment downtime and waste volume surges resulting from AOOs.*

ARCAP Approach – More Performance Based?(continued)

- ARCAP provides an opportunity to re-think the level of detail required in the FSAR through the use of a more performance-based approach

- What non-LMP topics traditionally found in the FSAR should be relocated from the FSAR to a separate (non-50.59 controlled) application document?

Example of Approach Differences

Regulatory Requirements
§ 50.34.a – (b) Each application…shall include: (2) An estimate of: (i) The quantity of each of the principal radionuclides expected to be released annually to unrestricted areas in liquid effluents produced during normal reactor operations; and (ii) The quantity of each of the principal radionuclides of the gases, halides, and particulates expected to be released annually to unrestricted areas in gaseous effluents produced during normal reactor operations.
§ 20.1301 Dose limits for individual members of the public a) Each licensee shall conduct operations so that - (2) The dose in any unrestricted area from external sources….does not exceed 0.002 rem (0.02 millisievert) in any one hour

Approach 1
FSAR Chapter 8 should **include analysis** that demonstrates these requirements will be met.

Approach 2
FSAR Chapter 8 should **include analysis** that demonstrates these requirements will be met.

Approach 3
FSAR **does not need to include the analysis** that demonstrates these requirements will be met. However, the analysis must be performed at the time of application review and available for NRC staff audit. .

ARCAP Approach – More Performance Based?

Following up on April 22 meeting questions on ARCAP content:

- Should ARCAP be structured to allow LMP concepts (i.e., performance-based approach) to be used in other "non-LBE" sections of the application that are not typically associated with the NEI 18-04 process?
  - Should performance-based criteria for the licensing review ~~inspection~~ of Part 20 requirements be used vice a more prescriptive, detailed system design application content licensing review?

- Routine release and ALARA requirements (contained in 10CFR20, App. B, and 10CFR50, App. I, respectively) are based on LWR technology. How should ARCAP address these performance-based requirements for non-LWR technology?

Discussion of Significant Comments on the December 2019 ARCAP Outline

- Many of the comments contained in the April 10, 2020, memo from Southern are likely addressed in the April 2020 annotated outline.
- However, those comments of a broader nature are discussed below:

  - Comment #18 – Analytical Code V&V – don't need a separate discussion in Chap 1.
  - Discussion: Open for discussion. This section is intended to provide a summary of reference documents that support the validation of new analytical codes that were used to demonstrate the performance of new safety features that differ significantly from currently licensed plants. Could be addressed elsewhere.

  - Comment #21 – Conformance with RGs discussion not necessary.
  - Discussion: RGs describe methods that the NRC staff considers acceptable for implementing the general design criteria (GDC). Thus, applicants should provide an evaluation of conformance with applicable guidance. That evaluation should also include an identification and description of deviations from guidance in applicable RGs as well as suitable justifications for any alternative approaches proposed by the applicant.

- Comment #23 – Organization of LBE and DBA information still being worked on.
- Discussion: Open for discussion. Followed NEI 18-04.

- Comment #32 – Sections 4.3 & 4.4 – What level of detail is needed in describing SR and NSRST SSCs?
- Discussion: Annotated outline provides clarification. Less design detail required for NSRST SSCs, but need to describe special treatment.

- Comment #34 – Section 4.5 "Non-Safety Related SSCs" – SAR should not have to address these SSCs.
- Discussion: Intent is to give the reviewer a complete understanding of the plant. Perhaps cover in Chapter 1.

- Comment #39- Chapter 7 – Is a stand-alone section on DID necessary? Fold DID into Chapters 3 and 4.
- Discussion: Outline follows NEI 18-04 which has a section on DID. DID process deserves a separate section due to the extensive discussion contained in 18-04.

- Comment #43 – Chapter 9 – There is no need to address occupational dose in the SAR. SAR should be limited to public health and safety.
- Discussion: SAR needs to show compliance with Part 20, which includes occupational dose.

- Comment #24 – Please explain what is intended by this stand-alone section for source term. Is this intended to cover both the calculation of radionuclide inventories and the transport of the radionuclides to the accessible environment during LBEs? “Mechanistic” would seem to imply that it is dependent on the phenomena of the event, but this appears to be a “one size fits all” section.
- Discussion: Since the mechanistic source term is used as an underlying basis for the LBE analysis, it is important to discuss the basis and analysis methods used to develop the source term somewhere in the FSAR. The location of this information is open for discussion.

- Comment #28 – It is not clear why there is a section for Aircraft Impacts – this is not called out as a special case under LMP. Inadvertent impacts would be addressed as part of the PRA. Is this intended to address 10 CFR 50.150? If so, it might best be addressed in another section.
- Discussion: Open for discussion. The requirements in 50.150 need to be addressed in some way in the application.

- Comment #42 – Capabilities for emergency plan protective actions - Such information would more appropriately be included in the Emergency Plan.
- Discussion: This section of the DID discussion is intended to describe how EP has been factored into the DID evaluation. The details of the EP would be in the Emergency Plan itself.

- Comment #44- The need for Chapter 10 “Human Factors Analysis” is not clear. Treat as part of DID.
- Discussion: Open for discussion. LMP will identify the important human actions. Human factors analysis is needed to ensure they are carried out with little chance of error. If this information is provided elsewhere in the FSAR (e.g., DID Chapter) then perhaps Chapter 10 may not be necessary.

- Comment #45 – Physical Security should not be part of the SAR. Treat it separately.
- Discussion: Open for discussion. Note the Physical Security Plan may not address how considerations for safety and security requirements together were addressed in the design process such that security issues (e.g., newly identified threats of terrorist attacks) can be effectively resolved through facility design and engineered security features, and formulation of mitigation measures, with reduced reliance on human actions.

- Comment #47 – SAR should only include Administrative Control Programs with a connection to safety.
- Discussion: Agree, but those required by regulation (e.g. Reliability Assurance Program) should also be included.

Break

NRC Advanced Reactor Content of Application Project Questions from April 2020 Meeting

Format and Content

Question on International Alignment (e.g., CNSC, IAEA)

- Industry interest in pursuing alignment ?

I. Introduction
II. General Plant Description
III. Management of Safety
IV. Site Evaluation
V. General Design Aspects
VI. Description of Plant Systems
VII. Safety Analyses
VIII. Commissioning
IX. Operational Aspects
X. Operational Limits and Conditions
XI. Radiation Protection
XII. Emergency Preparedness
XIII. Environmental Aspects
XIV. Radioactive Waste Management
XV. Decommissioning and End of Life Aspects

Format and Content

Questions for ARCAP Content

- Is the general direction incorporated into the ARCAP outline consistent with the Technology Inclusive Content of Application Project (TICAP) direction?
- Should ARCAP scope include construction permit guidance
  - What should ARCAP include in this area?
  - Does TICAP include a construction permit process?
- Should ARCAP include guidance for microreactors?
- Does the ARCAP draft annotated outline have an appropriate level of detail?
- Are there other topics that should be included in the draft?
- Are there items in the draft that are inconsistent with LMP?

Format and Content

Questions for ARCAP Content

- Should the outline be updated to allow LMP concepts to be used in other sections of the outline that are not typically associated with the process? (e.g., risk inform quality assurance program, radioactive waste management).
  - Should performance-based criteria for inspection of Part 20 requirements be used vice a licensing review?
- Routine release and ALARA requirements (contained in 10CFR20, App. B, and 10CFR50, App. I, respectively) are based on LWR technology. How should ARCAP address these performance-based requirements for non-LWR technology?
- What non-LMP topics traditionally found in the FSAR should be relocated from the FSAR to a separate (non-50.59 controlled) application document?

Format and Content

Questions on Alignment for Technical Specifications (10 CFR 50.36)

- Construct of Technical Specifications
  - Safety Limits, Limiting Safety System Settings
  - Limiting Conditions of Operation (LCOs), Surveillance Requirements
    - Associated 4 Criteria
    - LCOs represent the "lowest functional capability or performance levels of equipment required for safe operation"
  - Design Features, Administrative Controls
  - Use exemptions or guidance?
  - Replace or define "Significant Safety Function" language in 50.36?

Format and Content

Questions on Alignment for Technical Specifications (10 CFR 50.36)

- Scope of Technical Specifications (TS)
  - Should LCOs address only requirements for "safety-related structures, systems and components (SSCs)" or also address "non-safety-related with special treatment?"
  - Relationship between TS, safety classification, and requirements associated with "adequate protection" and "safety enhancements"?
  - Which events should LCOs address? [All, or a subset of licensing basis events (e.g., Design Basis Accidents)]?
  - Role of administrative controls in maintaining configurations and reliability of SSCs consistent with licensing basis events and frequency-consequence targets