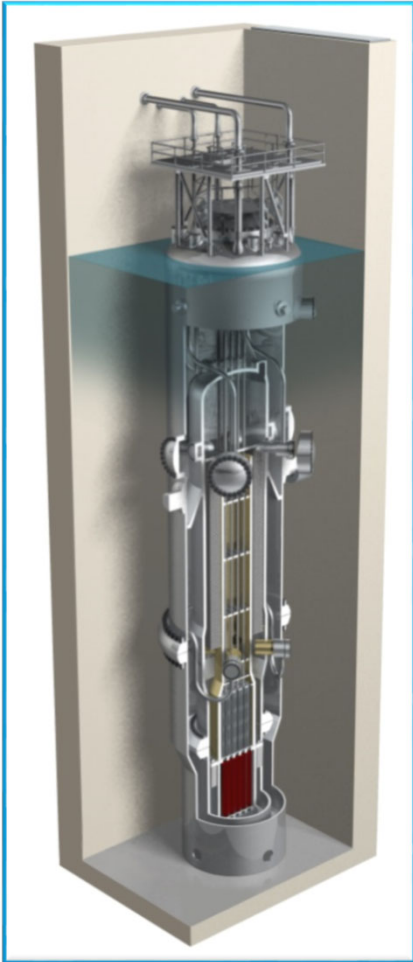


Incorporated by Reference (IBR)



Public Meeting

December 9, 2019

Purpose

To achieve alignment on implementation of “Incorporated by Reference” in NuScale FSAR.

Introduction

- NuScale seeks to reduce the amount of reports that are “incorporated by reference” by the DCA.
- NuScale believes it will also benefit the Rulemaking process and burden.
- Two separate but related concepts at issue:
 - Reducing amount of reports incorporated by reference in the DCD* (“DCD-IBR”), and
 - Reducing the amount of reports *approved for incorporation by reference by the Office of Federal Register* (“OFR-IBR”).

* Note: For simplicity, use of term “DCD” herein refers to the *Generic DCD* as traditionally defined (Tier 1, Tier 2, and Generic Tech Specs)

Scope of IBR

– DCD-IBR:

- Used by applicants to incorporate reports into the DCD; equivalent to including directly in the DCD. For NuScale listed in Tier 2 Tables 1.6-1 and 1.6-2.
- Traditionally used in Part 50 applications to adopt approved Topical Reports. Additional function is to incorporate SUNSI and SGI that cannot be included in the DCD directly.
- Afforded issue resolution and finality by the DC Rule. Becomes necessary for a COL applicant to include or IBR the same reports.

– OFR-IBR:

- A subset of DCD-IBR: public reports that are DCD-IBR.
- Formally approved for IBR by the OFR. Directly included in the scope the DC rule in the same manner as the DCD itself.
- First used in the ESBWR DC:
 - » ESBWR DCD Rev. 10 includes 70 reports that are DCD-IBR (Tables 1.6-1 and 1.6-2) and 48 reports that are additional references (Table 1.6-3).
 - » 20 of the DCD-IBR reports are public documents and were approved for IBR by the OFR, in addition to the DCD itself.

Reducing IBR

- DCD-IBR:

- Primarily SUNSI/SGI reports (including nonprop versions of proprietary reports).
- Problem: may expand licensing basis beyond what is intended or necessary; potential burden on NuScale and COL applicants/licensees.

- OFR-IBR:

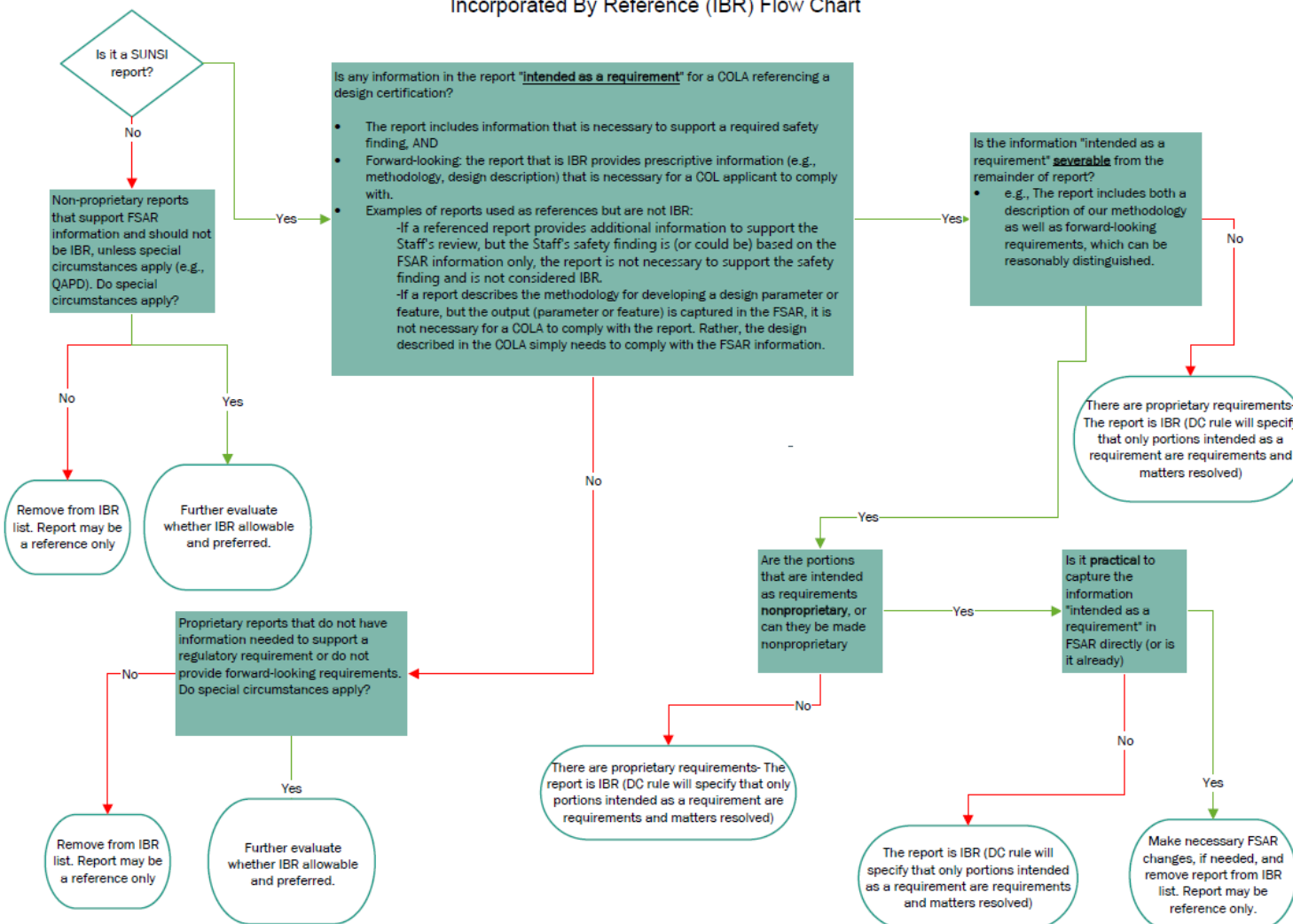
- Subset of DCD-IBR: Fully public documents that are IBR'd for expediency.
- Problem: for clarity to NRC and third parties, these reports should be references only (pre-ESBWR approach).

- First flowchart shared with NRC (Slide 6) aimed at what could be done to reduce DCD-IBR. Included some implicit assumptions that reflected that purpose.

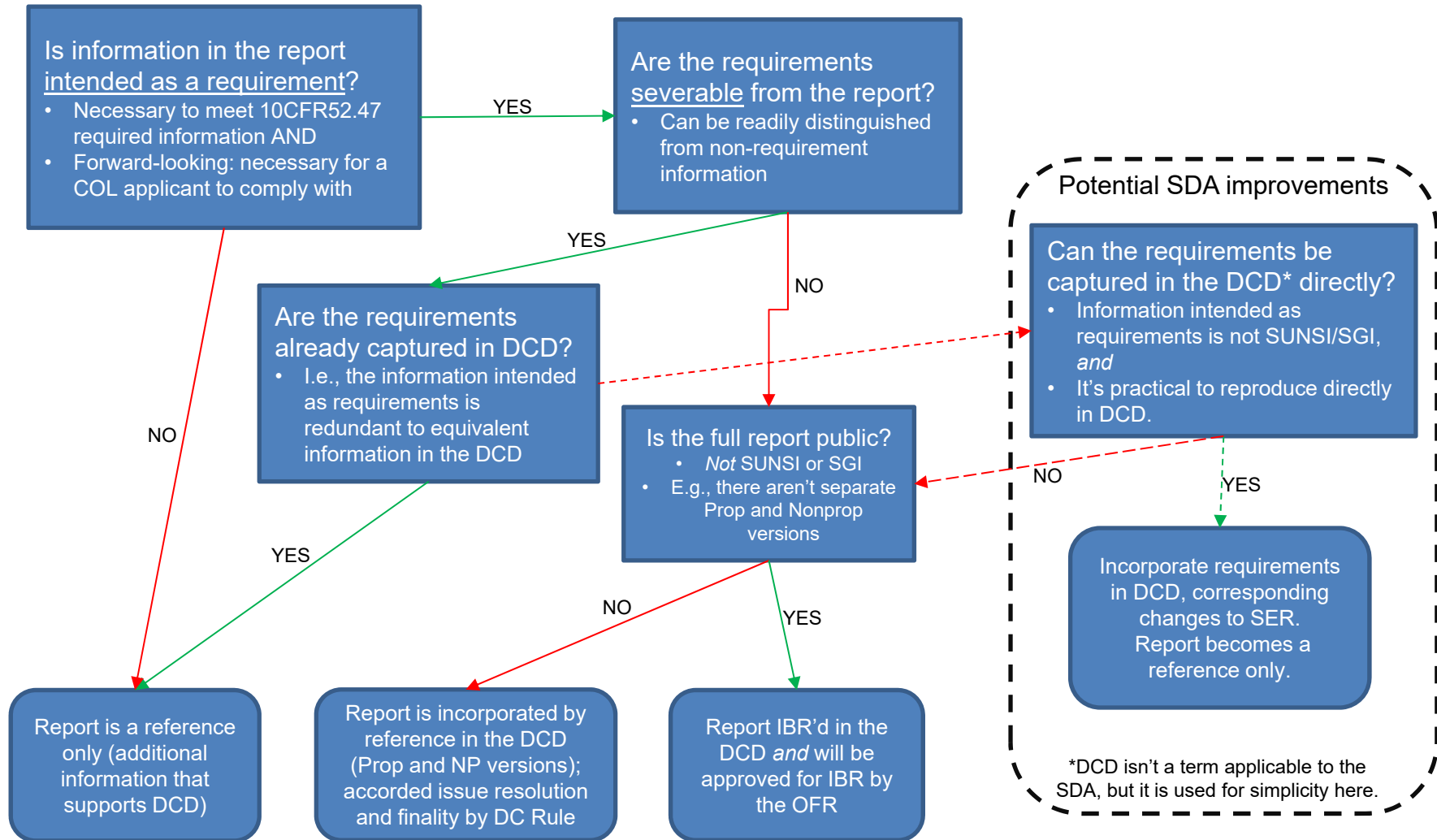
- *New flowchart (Slide 7) attempts to simplify DCD-IBR and OFR-IBR issues, and recognizes feasibility of DCA/SER changes at this stage.*

Original IBR logic

Incorporated By Reference (IBR) Flow Chart



Simplified IBR logic



Simplifying Table 1.6-1-Topical Reports

Topical Report Number	Topical Report Title	FSAR Section	IBR disposition	Notes	FSAR Changes (beyond §1.6 tables)	SER Ref.
NP-TR-1010-859-NP, Rev 4	NuScale Topical Report: Quality Assurance Program Description for the NuScale Power Plant	17	Maintain as DCD-IBR; Will be OFR-IBR.	Nonproprietary document. Includes forward-looking requirements for future QA.	None.	
TR-0515-13952-A, Rev 0	Risk Significance Determination	17, 19	Delete from IBR; Maintain as reference.	Nonproprietary document. Provides methodology that is required for FSAR but no forward-looking requirements. §17.4 uses as methodology reference. Table 19.1-19: Criteria for Risk Significance provides the criteria. TR-0515-13952-A is a reference.	None.	Ch. 17
TR-0815-16497-P-A, Rev 1	Safety Classification of Passive Nuclear Power Plant Electrical Systems	8, 15	Delete from IBR; Maintain as reference.	Proprietary report with necessary information for safety evaluation in FSAR §8.3 references the methodology provided in the TR. Part 7 and SER reference to support GDC 17, 18 exemptions.	None.	Ch. 5, Ch. 6, Ch. 8, Ch. 13, Ch. 15
TR-1015-18653-P-A, Rev 2	Design of the Highly Integrated Protection System Platform Topical Report	7, 15	Maintain as DCD-IBR; Will not be OFR-IBR.	Proprietary report (nonproprietary version provided). The TR provides non-severable requirements for system design: <ul style="list-style-type: none"> §7.0.4.1 points to the TR for design detail ("The MPS is built on the highly integrated protection system platform (See TR-1015-18653-P-A).") §7.1.1 states "The safety-related module protection system (MPS) uses the highly integrated protection system (HIPS) platform described in topical report NuScale Power, LLC, TR-1015-18653-P-A, §7.2.15.3 states "More detail on the MPS diagnostics functions are provided in TR-1015-18653-P-A." Other uses: §15.8 lists as a reference Part 4 (B.3.3) lists as validation source Part 7 reference to support 10 CFR 50.62(c)(1) ATWS exemption.	None	Ch. 7, Ch. 16

Simplifying Table 1.6-2-Technical Reports

Report Number	Technical Report Title	FSAR Section	IBR disposition	Notes	FSAR Changes	SER Ref.
TR-0716-50439	Comprehensive Vibration Assessment Program (CVAP) Technical Report TR-0716-50439	3.9, 14.2	Maintain as DCD-IBR; Will not be OFR-IBR.	<p>Proprietary report. The TR provides forward-looking requirements, e.g.,</p> <ul style="list-style-type: none"> §14.2.3.3 "The program is implemented consistent with the requirements of... TR-0716-50439," §14.2.11 Vibration testing is performed in accordance to the requirements of the NuScale CVAP as described in ...TR-0716-50439 <p>Also: §13.9 COL Item 3.9-10: The methodology contained inTR-0716-50439 is acceptable.</p>	None	Ch. 3, Ch. 4, Ch. 5
TR-0816-49833	Fuel Storage Rack Analysis	3.7, 3.8, 9.1	Maintain as DCD-IBR; Will not be OFR-IBR.	<p>Proprietary report. The TR provides forward-looking requirements specified in §9.1.2: "A COL applicant ...will provide a neutron absorber material qualification report which demonstrates that the neutron absorber material can meet the neutron attenuation and environmental compatibility design functions described in Technical Report TR-0816-49833."</p> <p>Also:</p> <ul style="list-style-type: none"> §3.7.3: "The design of the racks is discussed in Section 9.1.2 and the details of the seismic analysis are provided in technical report..."§3.8.4: The fuel storage racks are described in Section 9.1 and Technical Report..." §9.1.5: Uses as a validation source (i.e., RH margin) §9.1.3: The maximum keff remains below the applicable limits in the regulations and no abnormal condition would cause an inadvertent criticality Table 3.7.2-35 uses as reference 	None	Ch. 9
TR-0816-50796	Loss of Large Areas Due to Explosions and Fires Assessment	20.2	Delete from IBR; Maintain as reference.	<p>Proprietary report. LOLA requirements defined by regulation and design features described in FSAR. Report provides details of evaluation that was performed but doesn't contain forward-looking requirements.</p> <p>§20.2: "...TR-0816-50796...documents...response to a LOLA event using the guidance in NEI 06-12 ... defines LOLA criteria and identifies the design features that meet those criteria and ...COL applicant requirements</p> <p>COL Item 20.2-1: A COL applicant that references the NuScale Power Plant design certification will develop enhanced firefighting capabilities in accordance with 10 CFR 50.155(b)(2). The enhanced firefighting capabilities should address the expectation elements listed in Section 4.1.3 of the Technical Report TR-0816-50796 (Reference 20.2-1).</p> <p>COL Item 20.2-2: A COL applicant that references the NuScale Power Plant design certification will provide a means for water spray scrubbing using fog nozzles and the availability of water sources, and address runoff water containment issues (sandbags, portable dikes, etc.) as an attenuation measure for mitigating radiation releases outside containment.</p>	None	
RP-0914-8544	Human Factors Engineering Design Implementation Implementation Plan	18.11	Maintain as DCD-IBR; Will be OFR-IBR.	<p>Non-proprietary report:</p> <ul style="list-style-type: none"> Contains the requirements that a COL must meet to verify conformance of the as-built design to the planned design. Describes how ownership of the HFE program is transferred from NuScale to a licensee and what actions a licensee must complete in order to close the HFE ITAAC. 	None	Ch. 18
RP-1215-20253	Control Room Staffing Plan Validation Methodology	18.5	Delete from IBR; Maintain as reference.	<p>Proprietary report:</p> <ul style="list-style-type: none"> Provides a systematic method to perform staffing validations and testing with focus on high workload situations Describes the methodology used to evaluate licensed operator workload in a control room environment A workload assessment will verify the physical and cognitive demands associated with operating a 12-unit facility with the staffing plan to ensure that the staff workload is within limits. 	None	Ch. 18
ES-0304-1381	Human-System Interface Style Guide	18.10	Maintain as DCD-IBR; Will not be in OFR-IBR.	<p>Proprietary report:</p> <ul style="list-style-type: none"> Ensures the implementation of human factors engineering and human system interface principles in the development of user interface display pages, work locations, and work stations. Documents all of the information, requirements, and functional specifications of the human system interface. 	None	Ch. 18

Interpretations of Tables 1.6-1, 1.6-2

- Is use in a DCA part other than Part 2 a reason for IBR?
 - Yes, e.g., Part 4 (Tech Specs); Part 7 (Exemptions) cannot be.
- Is reference in RAI response, by itself, a reason for IBR?
 - No. Only reports with information intended as requirements will be IBR.
- Does SER statement referencing report as supporting a “safety finding” require in FSAR 1.6 tables?
 - No. Only reports with information intended as requirements will be IBR.
- Does an SER statement that report is IBR require inclusion in FSAR 1.6 tables?
 - No, although SER wording may need to be revised.

Implementation

- Actions to get to agreement on what can be removed from NuScale FSAR IBR content
- Timeline for DCA update
- Implications for SER updates
- Other thoughts or questions?

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