

ENCLOSURE

NUCLEAR ENERGY INSTITUTE (NEI) SPECIFIC COMMENTS ON DRAFT INTERIM STAFF GUIDANCE 1, REVISION 2, “DAMAGED SPENT NUCLEAR FUEL”

Specific, line-by-line comments on draft ISG-1, Revision 2 are provided in the table below.

NO.	PAGE	LINE	CURRENT WORDING	PROPOSED WORDING	TECHNICAL BASIS
1	All	102, 103, 120, 138, 149, 156, 166, 170, 173, 255, 309	Functions	Fuel-specific or system-related functions	The terms “functions,” “fuel-specific and system-related functions,” “fuel-specific and system-related regulations,” “fuel-specific or system-related regulatory functions,” and “regulatory functions” are used inconsistently throughout the ISG and should be used consistently according to the definitions.
2	Cover letter, p. 1	1	Spent Fuel Project Office,	Division of Spent Fuel Storage and Transportation,	Administrative
3	1	12	“auguments”	“arguments”	Editorial
4	2	102	“...function.”	Add the following sentence after the existing definition: “Damaged fuel must be stored in a damaged fuel can or acceptable alternative for storage and/or transportation based on a functional evaluation.”	Damaged fuel may be able to be handled by normal means and, therefore, may not require use of a damaged fuel container for either functionality or retrievability. One acceptable alternative already licensed by NRC is suggested to be included later in the ISG under Comment 13.
5	3	106	“...permit the release of gas...”	Add “particulate fuel matter and/or” between “of” and “gas”	Breached spent fuel rods include grossly breached spent fuel rods per Definition 6.
6	3	107	“pinhole breach”	“pinhole leak”	Editorial for consistency with Definition 5

NO.	PAGE	LINE	CURRENT WORDING	PROPOSED WORDING	TECHNICAL BASIS
7	3	111-112	“...,and therefore...operations.”	Delete	This part of the definition is not necessary. The rest of the definition is sufficient to define the term.
8	3	115	“SNF”	“spent fuel”	Editorial for consistency with Definition 4
9	3	128-129	Items (a) and (b)	Modify item (a) and delete item (b) referring to the damaged fuel can having to be retrievable.	There is no regulatory requirement for a damaged fuel can to be removable or retrievable. Only the fuel is required to be retrievable per §72.122 (l). For example, fuel in pieces will require removal from the damaged fuel can using special tools or other means whether the damaged fuel can is located in the canister or removed from the canister.
10	3	141	“Appendix A”	“appendix”	Editorial for consistency with Appendix naming
11	4	157	“(i.e., irradiation..”	Delete “irradiation” from this part of the sentence	The functions that are the subject of this ISG do not include the irradiation period. We recognize that irradiation affects material properties, so we agree the use of “irradiation” is appropriate in line 156.
12	4	185	“...do not want perform...”	“...do not want to perform...”	Editorial.
13	4	185	“...items number...”	“...item numbers...”	Editorial.
14	5	208	“...removal from storage.”	“...removal from storage.””	Editorial. Close quotes at the end of the regulation citation.

NO.	PAGE	LINE	CURRENT WORDING	PROPOSED WORDING	TECHNICAL BASIS
15	5	231	“cladding.”	After “cladding” add “In cases where reactor operating records cannot determine the classification of rods or assemblies, then fuel inspection campaign results (UT, sipping, etc.) or reasoned engineering arguments may be used to classify rods and assemblies as unbreached or breached.”	To provide necessary flexibility.
16	6	265	“or in an acceptable alternative.”	After “alternative” add “which may include mesh screens at the top and bottom of the fuel basket cells suitable to contain fuel particulates for damaged fuel that can be handled by normal means.”	Some damaged fuel assemblies are capable of being handled by normal means and do not need to be placed in a damaged fuel can to meet functional requirements and permit retrievability. Alternatives such as these have already been approved by the NRC.
17	7	285	“will”	“may”	One cannot say with certainty that other breached rods will necessarily become grossly breached in this scenario.

NO.	PAGE	LINE	CURRENT WORDING	PROPOSED WORDING	TECHNICAL BASIS
18	7	Flow Chart	a) Block entitled “SNF for specific application” b) Block entitled “Intact SNF” c) Bottom diamond that addresses functions.	a) Delete parenthetical group or add “assembly defects” b) “Unbreached SNF” c) Add “with or without assembly defects” after “functions.”	Not all assemblies without cladding penetrations are Intact SNF (i.e., if they have structural defects). Intact SNF, per Definition 7, meets all functional requirements and is not breached. To ask the “functional” question of fuel already deemed to be intact SNF, as the flow chart currently directs, contradicts the definition. Therefore, the flow chart needs to be revised as suggested in items ‘a’ and ‘b’. Comment ‘c’ ensures both unbreached and breached fuel will include assembly defects in any functional analysis.
19	9	350-351	“This includes....”	Delete this sentence.	Referring to the applicable regulations is sufficient. Licensees’ QA programs will determine the exact records to be maintained. Licensees typically do not maintain all electronic files generated during the inspections, only the final report.
20	9	372-376	None	The “ISSUE” section of ISG-22 needs to be revised to define intact fuel consistently with ISG-1, Rev. 2.	ISG-22, in its ISSUE Section, first sentence states: “Under the current guidance in ISG-1, Revision 1, “Damaged Fuel,” the definition of intact fuel includes fuel rods containing no cladding defects greater than pinhole leaks or hairline cracks.” The definition of Intact Fuel in draft ISG-1, Rev. 2 defines fuel rods with pinholes or hairline cracks as breached, not intact. This is not consistent with the statement in ISG-22.

NO.	PAGE	LINE	CURRENT WORDING	PROPOSED WORDING	TECHNICAL BASIS
21	10	414-428	Section 1.3	Delete this section of the default definition of damaged fuel in its entirety.	Incipient damage is a term too subjective to implement or enforce. There is no engineering basis for presumptively classifying a fuel assembly as damaged simply because it may have been located adjacent to a fuel assembly with a gross rod rupture or because it has had a breached rod re-constituted. Incipient damage is not discussed anywhere else in the ISG nor is it a term defined or addressed in ANSI N14.33.
22	10	397-404	a) "there" b) Section numbers 1.1.1 and 1.1.2	a) "There" b) Change to Sections 1.2 and 1.3 and revise other section numbers accordingly.	a) Editorial b) The information in Sections 1.1.1 and 1.1.2 has the same weighting as the information in Section 1.1.
23	11	444	"D.C.,"	"D.C.,"	Editorial

Comment No. 24

As a general comment, industry is concerned about the implementation of ISG-1, Revision 2. Interim Staff Guidance documents are revisions to NRC staff review guidance. The definitions of damaged fuel that must be complied with by licensees are contained in the individual Certificates-of-Compliance (CoC). Therefore, the CoCs would have to be amended to change the definition of damaged fuel with which licensees must comply. The guidance in ISG-1 may be implemented in whole, in part, or not at all by the CoC holders that have CoCs already containing definitions for intact and damaged fuel that the NRC has reviewed and approved and, therefore, found to adequately protect public health and safety.

Industry is also concerned that modifying the definition of damaged fuel in transportation CoCs for dual purpose spent fuel storage and transportation systems may render previously loaded canisters untransportable. If the Part 71 CoC definition of damaged fuel is changed after the time of original cask/canister loading, fuel assemblies previously classified as intact and not loaded in a damaged fuel can could possibly be considered damaged under the newer version of the Part 71 CoC in effect at the time of shipment, making the canister non-transportable.

This would require returning the bolted cask or welded canister to the plant spent fuel pool, opening it, and re-loading the cask/canister, activities which require heavy load movements and additional personnel radiation exposure. This is a potential unintended consequence of this ISG revision and is clearly not a desirable outcome. Furthermore, several decommissioned plants that have dual-purpose canisters loaded at their ISFSIs no longer have spent fuel pools (e.g., Big Rock Point, Rancho Seco, Trojan, Yankee Rowe, and Maine Yankee).

To address this situation, we recommend that any CoC holder who chooses to modify their transportation CoC to adopt the revised guidance in ISG-1, be permitted to “grandfather” casks and canisters loaded prior to the new definition becoming effective. This can be accomplished with appropriate language in the Part 71 CoCs. We recommend that SFST modify their licensing procedures to recognize the need for grandfathering.