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Alternate Risk-Informed Approach for Addressing the Effects of Debris on Post-Accident Long-Term Core Cooling

**Comment On:** NRC-2015-0095-0001

Alternate Risk-Informed Approach for Addressing the Effects of Debris on Post-Accident Long-Term Core Cooling; Draft Regulatory Guide for Comment

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Comment on FR Doc # 2015-08964

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## General Comment

See attached file(s)

4/20/2015  
80 FR 21658

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## Attachments

NL-15-1141

SUNSI Review Complete  
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**JUL 02 2015**

NL-15-1141

Cindy Bladey  
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Washington, D. C. 20555-0001  
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Comments on Draft Regulatory Guide DG-1322, "Alternate Risk-Informed  
Approach for Addressing the Effects of Debris on Post-Accident  
Long-Term Core Cooling," Docket ID NRC-2015-0095

Dear Ms. Bladey:

Southern Nuclear Operating Company (SNC) hereby submits comments for consideration by the U.S. Nuclear Regulatory Commission (NRC) staff. Specifically, SNC is providing comments on a draft regulatory guide as noticed in the Federal Register (*Federal Register* Vol. 80, No. 75, 21658, dated April 20, 2015; Docket ID NRC-2015-0095). The draft regulatory guide is DG-1322, "Alternate Risk-Informed Approach for Addressing the Effects of Debris on Post-Accident Long-Term Core Cooling."

Representatives from SNC are working closely with industry groups to address this very important change in regulatory guidance. The attachment to this letter provides SNC comments on the proposed draft regulatory guide.

SNC encourages future public meetings to discuss resolution of the industry comments so that the final regulatory guide serves in the best interest of safety with clear guidance for industry and NRC reviewers.

This letter contains no NRC commitments. If you have any questions, please contact Doug McKinney at (205) 992-5982.

Respectfully submitted,

A handwritten signature in black ink that reads "C. R. Pierce". The signature is written in a cursive, flowing style.

C. R. Pierce  
Regulatory Affairs Director

CRP/LKB/cbg

U. S. Nuclear Regulatory Commission  
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Enclosure: SNC Comments on Docket ID NRC-2015-0095

cc: Southern Nuclear Operating Company  
Mr. M. D. Meier, Vice President – Regulatory Affairs  
Mr. B. J. Adams, Vice President – Engineering  
SNC Document Services RType: CGA02.003

Comments on Draft Regulatory Guide DG-1322, "Alternate Risk-Informed  
Approach for Addressing the Effects of Debris on Post-Accident  
Long-Term Core Cooling," Docket ID NRC-2015-0095

Enclosure 1

SNC Comments on Docket ID NRC-2015-0095

Enclosure 1 to NL-15-1141  
SNC Comments on Docket ID NRC-2015-0095

The Nuclear Regulatory Commission (NRC) published a draft regulatory guide for comment in the Federal Register (*Federal Register* Vol. 80, No. 75, 21658, dated April 20, 2015; Docket ID NRC-2015-0095). The draft regulatory guide is DG-1322, "Alternate Risk-Informed Approach for Addressing the Effects of Debris on Post-Accident Long-Term Core Cooling."

Representatives from SNC are working closely with the South Texas Project Risk-Informed GSI-191 Oversight Committee to address this very important change in regulatory guidance. SNC has provided comments to be included with the consolidated industry response to be provided by the committee. SNC provides the following additional comments.

As general comments, SNC offers the following as overarching issues which should be addressed:

1. There are a number of areas that would benefit from clarification, additional guidance, or examples to reduce ambiguity and eliminate possible differing interpretations. For example, a better definition of the relevant initiating events is needed, as well as more specificity on which PRA models are included in the scope of certain requirements.
2. It would be beneficial to have one section on uncertainty which addresses all requirements for uncertainty and sensitivity analyses in a consistent manner. This would include what is required for the integrated submodels, propagation of inputs into the PRA models (including identification of areas where propagation of uncertainty is not required), and PRA model quantification. Discussion of suitable methods such as those described in section C.14 should be provided.

Detailed SNC comments are in the following table.

Enclosure 1 to NL-15-1141  
SNC Comments on Docket ID NRC-2015-0095

**Detailed Comments on Draft Regulatory Guide DG-1322, "Alternate Risk-Informed Approach  
for Addressing the Effects of Debris on Post-Accident Long-Term Core Cooling"  
(Docket ID NRC-2015-0095)**

By Southern Nuclear

ID	Section and page #	Comment
1	Section A, Related Guidance, page 2	The expectations for performance monitoring requirements as referenced in this section are unclear. Provide specific guidance on expectations for how often and under what circumstances the analysis inputs/assumptions and PRA results should be reconfirmed to still be valid.
2	Section C.1, first and second paragraphs, page 5	<p>It is unclear if the intent is to identify/determine the scope of PRA model, in terms of operating modes and hazards, required for the risk analysis. Initial efforts have been focused on calculating CDF/LERF impacts using Internal events PRA only (modes 1, 2). As currently worded, we would be required to show, on a plant-specific basis, that initiating events resulting from other hazards (e.g. Seismic) and operating modes would not result in LOCAs requiring recirculation which could be adversely affected by debris.</p> <p>State the scope of PRA models required for this analysis in terms of operating modes and hazards required for the risk analysis, such as: "Relevant events are limited to those which result in LOCAs requiring recirculation which could be adversely affected by debris."</p>
3	Section C.3, page 6	Clarify if the intent is to permanently incorporate into the plant's baseline model of record or just in the PRA model used in the analysis to calculate delta CDF and LERF for GSI-191 impacts.
4	Section C.4, page 6	For clarity, add the following in the first sentence: "... utilize integrated models to evaluate strainer and downstream system performance, including the following submodels for:"

Enclosure 1 to NL-15-1141  
SNC Comments on Docket ID NRC-2015-0095

ID	Section and page #	Comment
5	Section C.4, last paragraph, page 7	The draft guide does not provide sufficient details or explanation of expectations for uncertainty analyses. Address whether distributions of parametric uncertainty are required for each submodel that generates an input into the analyses, and whether sensitivity analyses which determine the parameters that the analyses are most sensitive to are required to be used.
6	Section C.5.a, page 7	Specify, or provide examples of, the criteria to be used to identify components important to the risk-informed analysis of debris effects. Component contribution to CDF/LERF is specific to the ECCS equipment operational configurations/alignments of the high likelihood configurations used in the risk evaluations.
7	Section C.5.d, page 7	Clarify which integrated model (or models). It's unclear whether the statement applies to the integrated submodels in C.4 or the modified PRA model.
8	Section C.6.e, page 8	The draft guide does not provide sufficient details or explanation of expectations for uncertainty analyses. Conditional failure probabilities for sump strainer and core blockage determined based on the analyses in C.6.a through C.6.d will be incorporated into the PRA model used to calculate CDF/LERF impacts. State whether the uncertainty analysis (based on the state of knowledge) run as part of PRA model quantification is sufficient to satisfy this requirement.
9	Section C.7.d, page 8	Same comment as above for section C.6.e  As this requirement is repeated throughout C.5 through C.13 and elsewhere in this RG, it would be beneficial to have one section on uncertainty which addresses <u>all</u> requirements for uncertainty and sensitivity analyses. This would include what is required for the integrated submodels, propagation of inputs into the PRA models (including identification of areas where propagation of uncertainty is not required), and PRA model quantification. Discussion of suitable methods such as those described in C.14 should be provided.
10	Section C.14.a, page 12	See comment for C.7 about consolidating all uncertainty analysis requirements into a single section in this RG.
11	Section C.14.d(1), page 12	Clarify all the requirements in 14.d starting with what is required to confirm NUREG-1829 values are applicable. Clarify whether the listed requirements apply if the NUREG-1829 values are used in the analysis.  Clarify whether the other analyses are only required if LOCA frequencies are not derived from NUREG-1829.
13	Section C.20, page 17	The expectations for performance monitoring requirements as referenced in this section are unclear. Provide specific guidance on expectations for how often and under what circumstances the analysis inputs/assumptions and PRA results should be reconfirmed to still be valid.