

February 24, 2000

MEMORANDUM TO: Cynthia A. Carpenter, Chief
Generic Issues, Environmental, Financial
and Rulemaking Branch
Division of Regulatory Improvement Programs, NRR

FROM: Joseph L. Birmingham, Project Manager/**AR**/
Generic Issues, Environmental, Financial
and Rulemaking Branch
Division of Regulatory Improvement Programs, NRR

SUBJECT: SUMMARY OF FEBRUARY 15, 2000 MEETING WITH THE NUCLEAR
ENERGY INSTITUTE (NEI) REGARDING THEIR COMMENTS ON
DRAFT REGULATORY GUIDE (DG-1081), "ALTERNATIVE
RADIOLOGICAL SOURCE TERMS (AST) FOR EVALUATING DESIGN
BASIS ACCIDENTS AT NUCLEAR POWER REACTORS"

On February 15, 2000, representatives of the Nuclear Energy Institute (NEI), various utilities, and vendors met with representatives of the Nuclear Regulatory Commission (NRC) at the NRC's offices in Rockville, Maryland. Attachment 1 provides a list of meeting attendees. The purpose of the meeting was to provide an opportunity for the industry representatives to make comments on the draft regulatory guide (DG-1081), "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." Attachment 2 is a copy of the meeting agenda. All of the topics were addressed, but the order was revised so as to enable staff topic experts to attend. Also attached to these minutes are copies of the NEI slides (Attachment 3) and NRC slides (Attachment 4) used in the meeting.

After brief introductory comments by Msrs. LaVie and Reinhart (NRC) and Mr. Cozens (NEI), Ms Sreela Ferguson of Stone & Webster Engineering Company made a presentation addressing issues related to the prior design basis and accident duration assumptions. Recommendations were made regarding suggested language changes. Under the topic of prior design basis, the industry noted that the draft guide specifies that prior design basis that are unrelated or unaffected by the AST may continue as facility design basis. The industry noted however that there has been confusion regarding whether this statement applied to the appendices as well. A clarification that would specifically address the appendices was offered. The staff agreed to consider an appropriate clarification. On duration of accidents, the industry requested that the staff include the accident durations in a table in the draft guide. The staff noted that such a table could be useful and agreed to consider it in preparing the final guide. There was a discussion on the exposure duration assumed in EQ calculations. The industry made a recommendation that the staff make a distinction between the mitigation and recovery phase of an accident and that credit be allowed for corrective and mitigative actions during the recovery phase. The industry also proposed that the mitigation phase be limited to 30 days. The staff noted it had previously considered some of the suggested changes, but that these were removed from the draft guide when the EQ issue was tabled to be addressed under a generic safety issue (GSI). The staff noted that the GSI has not yet been issued and that schedules would not be decided upon until the GSI was prioritized.

Mr. Stan Ritterbusch of ABB-CENP made a presentation on the issue of fuel gap fission product content. Only the gap fractions for non-LOCA design basis accidents were discussed. The industry is of the opinion that the values provided in the draft guide are overly conservative.

Mr. Ritterbusch presented data from actual fuel sampling and proposed a bounding envelope that varied as a function of fuel burnup. At 62 GWD/MTU, the suggested gap fraction value (all nuclides) would be 6% or 8% depending on degree of fuel heating. The industry proposed that licensees who wished to perform detailed burnup calculations could establish gap fractions for individual fuel rods or assemblies. The staff noted that the presented data were based on normal fuel burnup and may not be representative of more aggressive fuel burnup trends now being experienced. The staff indicated that the proposal may have some applicability, but that it would have to resolve its question regarding the conservatism of the data upon which the conclusions were drawn. In the second part of the discussion, the industry proposed that for fuel burnup less than 30 GWD/MTU that the radial peaking factor from the COLR be used. For higher burnup fuel, the industry recommended that the staff should allow the use of radial peaking factors based on the actual power history of each assembly. The staff agreed to consider this proposal further. The staff's main issue was that the combination of the two proposals may not always yield the limiting case.

Mr. LaVie briefly presented the preliminary staff data on gap fraction version burnup. The staff noted that these data were close in magnitude to those proposed by the industry, leading additional credence to both sets of data and agreed to consider the recommendations if an appropriate level of conservatism could be established.

Mr. Bill Hopkins of Bechtel Power Corporation conducted a brief discussion on the staff's proposed iodine chemical form assumptions for the fuel handling accident. In this discussion it was recommended that the staff consider treating the iodine as being in the form of CsI. The staff noted that this had already been considered by the staff and would likely be acceptable. The staff questioned the overall benefit of such a change. The staff noted that the activity released from the gap would dissociate in the spent fuel pool water into ionic cesium and iodide and that ultimately the pool releases would need to be based on elemental iodine, the current gap release assumption. The staff also noted that if increased decontamination factors (Dfs) were assumed, it may be necessary to address iodine re-evolution, which is not significant under current assumptions, but may become so if the DFs were revised.

The industry asked the staff to walk them through how the final 10 CFR 50.67 rule applied to full and selective implementations. Mr. LaVie provided the requested clarification, noting that §50.67 requires the licensees to evaluate the consequences of proposed source term implementations. The draft guide, in providing guidance on what constitutes an acceptable analysis, created the full and selective implementation concept as a means of categorizing analysis requirements.

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Attachments: As stated

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C. A. Carpenter

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