

August 13, 2013

MEMORANDUM TO: R. W. Borchardt
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary **/RA/**

SUBJECT: STAFF REQUIREMENTS – SECY-13-0063 – DENIAL OF
PETITION FOR RULEMAKING PRM-50-105 REQUESTING
AMENDMENTS REGARDING IN-CORE THERMOCOUPLES AT
DIFFERENT ELEVATIONS AND RADIAL POSITIONS
THROUGHOUT THE REACTOR CORE

The Commission has approved the staff's recommendation to deny Mr. Mark Leyse's petition for rulemaking and to publish the associated *Federal Register* notice, subject to the comments and edits below.

1. The following changes should be made to the Federal Register Notice:
 - a. Page 1, "Summary" section, line 4, revise to read: "... power plants (NPPs)"
 - b. Page 1, "Summary" section, line 10, revise to read: "... justification ~~on~~ of why precise knowledge"
 - c. Page 1, "Summary" section, line 10, revise to read: "... temperature at various elevations and radial positions would"
 - d. Page 4, line 7, add a comma after "that."
 - e. Page 4, line 9, revise to read: "... temperatures ~~were~~ would be during"
 - f. Page 4, line 9, add a comma after "that."
 - g. Page 4, line 11, revise to read: "... core uncover~~y~~."
 - h. Page 4, add the following as the first ¶ of Section II.":

"The petitioner requested that the NRC require in-core thermocouples be installed in all NPPs; this would include both pressurized water reactors (PWRs) and boiling water reactors (BWRs). However, BWRs do not use CETs, and thermocouple response in BWR applications is not currently known. Furthermore,

SECY NOTE: This SRM, the Voting Record, and the subject SECY paper will be released to the public 5 working days after dispatch of the letter to the petitioner.

the experiments referenced throughout the PRM studied only PWRs. Because the issues and arguments raised in the PRM do not apply to BWRs, and because the PRM does not list any limitations on BWR instrumentation, there is no basis provided to evaluate this PRM for BWRs. Therefore, the NRC is evaluating this PRM as it pertains to PWRs only.”

- i. Page 4, line 13, revise to read: “During normal operation **in a PWR**, reactor”
- j. Page 5, lines 8-9, revise to read: “ ... several 400 **hundred** [seconds]),”
- k. Page 5, line 10, revise to read: “... (up to several 100 [Kelvin])”
- l. Page 5, line 15, revise to read: “ ... core exit **thermocouple** response”
- m. Page 5, line 18, revise to read: “... LOFT PWR [~~Pressurized Water Reactor~~] Experience,”
- n. Page 7, line 12, revise to read: “... cladding ~~has~~ **will have** exceeded”
- o. Page 7, line 14, revise to read: “... cooling and **to** ensure **that** fission”
- p. Page 7, line 21, revise to read: “... action in **a** core”
- q. Page 8, line 15, revise to read: “... requested **that** the NRC”
- r. Page 8, lines 15-16, revise to read: “~~The petitioner requested the NRC require in-core thermocouples be installed in all NPPs; this would include both PWRs and boiling water reactors (BWRs). However,~~ **As previously stated,** BWRs do not use CETs,”
- s. Page 8, lines 18-21, delete the sentence: “~~Because the issues and arguments raised in the PRM do not apply to BWRs, and because the PRM does not list any limitations on BWR instrumentation, there is no basis provided to evaluate this PRM for BWRs.~~”
- t. Page 9, lines 3-4, revise to read: “**With regard to PWRs,** ~~In addition, while CETs are measuring exit temperatures, they are located at”~~
- u. Page 10, line 11, add a comma after “In addition,”
- v. Page 11, lines 15 -16, revise to read: “In addition, because the two **existing** combined licenses”
- w. Page 12, line 21, revise to read: “... the **recommendation of the** President’s Commission **on the Three Mile Island Accident** ~~recommendations.~~”
- x. Page 13, line 8 from the bottom of the page, revise to read: “... indicates that”
- y. Page 13, next to the last bullet, revise line 2 to read “ ... core uncover**y**,”
- z. Page 14, line 1, revise to read: “... (up to several 100 [Kelvin])”

- aa. Page 17, lines 4-5, revise to read: “The NRC agrees with this comment, and The NRC is denying PRM-50-105 for the these reasons as set forth in this document.”
- bb. Page 20, line 16, revise to read: “... the report that are referenced”
- cc. Page 23, line 13, revise to read: “... could be over 3300 °F), nearing”
- dd. Page 27, lines 5-6, correct the wording to make sense: “... water level in the reactor core. However, that “BWR high drywell”
- ee. Page 27, in the NRC Response, lines 2-4, revise to read: “ ... discussed at the beginning of the NRC’s technical evaluation of this PRM, and in ... only for the reasons indicated in those at sections. Furthermore, that section addressing PRM Issue 2 describes”
- ff. Page 28, lines 12-14, revise to read: “As noted in the ‘Miscellaneous Comments’ subsection of Section III, In Enclosure 3 to SECY-12-0095, “Tier 3 Program Plans and 6 month Status Update in Response to Lessons Learned from Japan’s March 11, 2011, Great Tohoku Earthquake and Subsequent Tsunami” (pages 51-55), the NRC has indicated that it added the ACRS recommendation”
- gg. Page 28, lines 17-18, revise to read: “... evaluation is much broader than the use of thermocouples. Rather, the Tier 3 evaluation will focus”
- hh. Page 30, row 6, column 2 of the table, delete the comma after “Improvements;”
- ii. Page 31, Section VI., line 1, revise to read: “During normal operation in a PWR, reactor”
- jj. Page 31, Section VI., line 7, revise to read: “The NRC has determined does not believe that there is no an operational necessity”
- kk. Page 32, line 1, revise to read “ ... CETs but . However, the NRC concludes that”

2. The following changes should be made to the letter to the petitioner:

- a. Paragraph 1, line 5, revise to read: “ ... plants (NPPs) to”
- b. Paragraph 3, line 3, revise to read: “ ... ~~Federal Register~~ notice, to”

cc: Chairman Macfarlane
 Commissioner Svinicki
 Commissioner Apostolakis
 Commissioner Magwood
 Commissioner Ostendorff
 OGC
 CFO
 OCA
 OPA
 Office Directors, Regions, ACRS, ASLBP (via E-Mail)
 PDR