POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Carrie M. Safford, Secretary

FROM: Chair Hanson

SUBJECT: SECY-23-0053: Denial of Petition for Rulemaking on Voluntary Adoption of Revised Design-Basis Accident Dose Criteria (PRM-50-121; NRC-202-0055)

Approved X **Disapproved** ____ **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** ____ **Attached** X **None** ____

Christopher T. Hanson

Digitally signed by Christopher T. Hanson
Date: 2023.11.28 13:55:37 -05'00'

Signature
Christopher T. Hanson

Date **11/28/2023**

Entered in STAR
Yes X
No ____

Chair Hanson's comments on
SECY-23-0053: Denial of Petition for Rulemaking on Voluntary Adoption of Revised Design-Basis Accident Dose Criteria (PRM-50-121; NRC-2020-0055)

This petition for rulemaking (PRM) proposes a new rule that would allow licensees to voluntarily adopt a uniform accident dose acceptance criterion of 10 rem total effective dose equivalent for the control room and the exclusion area and low population zone boundaries. I appreciate the petitioner's intent, in part, to "relieve the unnecessary regulatory burden associated with meeting the current control room dose criterion." Indeed, the control room dose criterion (5 rem) has proven to be a challenge for many plants that have very little margin to the regulatory criterion, especially given the deterministic methods in use for demonstrating compliance. The staff is currently addressing the control room dose criterion as a part of the increased enrichment rulemaking,[1] and therefore, a separate rulemaking is not necessary. Regarding the exclusion area and low population zone boundaries, I am not convinced that the longstanding 25 rem dose criteria need to change as they remain effective plant performance standards for protecting the public. Therefore, I approve the staff's recommendation to deny PRM-50-121. I also approve publication of the *Federal Register* notice denying PRM-50-121 and issuance of the letter informing the petitioner of this action, both subject to the attached edits.

Included with the PRM, the petitioner requested the NRC make conforming changes to Regulatory Guide (RG) 1.183 "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors" to support the rule proposed in the PRM. Although I am voting to deny the PRM, I recognize there is room for improving the guidance. I find the deterministic approaches in RG 1.183 are likely to unnecessarily restrict applicants and licensees seeking to modify operations without commensurate safety benefits. The staff issued a revision to this RG to support near-term accident-tolerant fuel (ATF) designs in October 2023, and has already initiated a subsequent revision to address longer-term ATF designs and higher burnups. The staff should complete this revision expeditiously and work closely with stakeholders to incorporate appropriate risk-informed methodologies.

[1] *Federal Register* notice—Regulatory Basis Document for Public Comment, "Increased Enrichment of Conventional and Accident Tolerant Fuel Designs for Light-Water Reactors" (88 FR 61986, September 8, 2023).

CTH edits

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-121; NRC-2020-0055]

Voluntary Adoption of Revised Design Basis Accident Dose Criteria

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking, dated November 23, 2019, submitted by John G. Parillo. The petition requested that the NRC develop a rule that would allow nuclear power plant licensees to voluntarily adopt a revised accident dose acceptance criteria for the control room, exclusion area boundary, and the low population zone outer boundary. The petition further requested revisions to clarify footnotes discussing these dose acceptance criteria in the applicable regulations. The NRC docketed the petition on February 19, 2020, and assigned it Docket No. PRM-50-121. The NRC is denying the petition because the information presented does not sufficiently support rulemaking and the proposed changes are not necessary to provide reasonable assurance of adequate protection of public health and safety.

DATES: The docket for the petition for rulemaking PRM-50-121 is closed on [**INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER***].

ADDRESSES: Please refer to Docket ID NRC-2020-0055 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to https://www.regulations.gov and search for Docket ID NRC-2020-0055. Address questions about NRC dockets to Dawn Forder; telephone: 301-415-3407; email: Dawn.Forder@nrc.gov. For technical questions, contact the persons listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section of this document.

- **NRC's PDR:** You may examine and purchase copies of public documents by appointment at the NRC's PDR, Room P1 B35, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time, Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Elijah Dickson, Office of Nuclear Reactor Regulation, telephone: 301-415-7647, email: Elijah.Dickson@nrc.gov or Tyler Hammock, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-7528,

email: Tyler.Hammock@nrc.gov. Both are employees of the U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. The Petition

Section 2.802 of title 10 of the *Code of Federal Regulations* (10 CFR), "Petition for rulemaking—requirements for filing," provides an opportunity for any interested person to petition the Commission to issue, amend, or rescind any regulation. On November 23, 2019, the NRC received a petition for rulemaking (PRM) from John G. Parillo, an NRC employee in his private capacity.

The petition requested the NRC develop a rule allowing licensees to voluntarily adopt a revised dose acceptance criteria of 10 rem total effective dose equivalent (TEDE) for the control room, the exclusion area boundary, and the low population zone. The petitioner identified concerns with the current acceptance (i.e., dose) criteria described in 10 CFR part 100, "Reactor Site Criteria," as stated in section 100.11, "Determination of exclusion area, low population zone, and population center distance," its basis document, Technical Information Document (TID)-14844, "Calculation of Distance Factors for Power and Test Reactor Sites," United States Atomic Energy Commission, March 23, 1962, and the alternate accident source term requirements described in 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," as stated in section 50.67, "Accident source term." Additionally, this petition examined the objectives of the control room design criterion in 10 CFR part 50, appendix A, "General Design Criteria for Nuclear Power Plants," criterion 19, "Control room," and the relationship between the control room design criterion and the reactor site criteria. The petitioner also identified concerns with the translation of the section 100.11 dose

criteria (25 rem whole body and 300 rem thyroid) into the single ~~TEDE criterion (~~25 rem TEDE~~)~~ dose ~~criteria~~ criterion used in other regulations, including requirements applicable to: 1) construction permits under section 50.34(a); 2) applicants under 10 CFR part 52, "Licenses, certification, and approvals for nuclear power plants;" and 3) existing plants originally licensed prior to January 10, 1997, that choose to adopt the alternative source term under section 50.67. With regard to these regulations, applicants must demonstrate that the following radiological acceptance criteria are met: 1) an individual located on any point on the boundary of the exclusion area for any 2-hour period following the onset of postulated fission product release would not receive a radiation dose in excess of 0.25 sievert (Sv) (25 rem) TEDE; 2) an individual located at any point on the outer boundary of the low population zone, who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage), would not receive a radiation dose in excess of 0.25 Sv (25 rem) TEDE; and 3) adequate radiation protection is provided to permit access to, and occupancy of, the control room under accident conditions without personnel receiving radiation exposures in excess of 0.05 Sv (5 rem) TEDE for the duration of the accident.

For the purposes of this document, "siting criteria" refers to the 0.25 Sv (25 rem) exclusion area boundary and low population zone TEDE criteria, and the "control room design criterion" refers to the 0.05 Sv (5 rem) control room TEDE criterion.

The NRC identified three unique categories of petitioned changes within PRM-50-121: 1) voluntary rule development; 2) conforming changes to Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors" (ML003716792); and 3) other petitioned changes, which include proposed changes to footnotes.

Voluntary Rule Development

The petition requested that the NRC develop a rule that would allow licensees to voluntarily adopt a revised accident dose acceptance criterion of 0.1 Sv (10 rem) TEDE for the three criteria in section 50.67(b)(2). The petition stated that the voluntary rule would be reflective of modern health physics recommendations and modern plant designs. The petition stated that NRC's design basis accident (DBA) dose criteria and the resulting design of accident mitigation systems could be perceived to emphasize protection of the control room operator over protection of the public. Further, the petition stated that the proposed change would provide a better balance between protection of the control room operators and the protection of the public. The petition also noted that the control room design criterion has proven to be challenging to demonstrate because most nuclear power plants have minimal margin to the 0.05 Sv (5 rem) TEDE regulatory criterion contained in section 50.67(b)(2)(iii). The petition claimed that a uniform criterion of 0.1 Sv (10 rem) TEDE, in a new section 50.67a~~(b)(2)~~ Accident source term. Alternative dose criteria., would relieve the current regulatory burden associated with meeting the current control room design criterion for current operating nuclear power plants. Therefore, the petition also recommended conforming changes to General Design Criterion (GDC) 19 of appendix A to 10 CFR part 50 to permit the use a of 0.1 Sv (10 rem) TEDE control room design criterion if a 0.1 Sv (10 rem) TEDE criterion for the alternate source-term siting criterion was voluntarily adopted.

Proposed Changes to Regulatory Guide 1.183

The petition suggested that RG 1.183 be revised to align with the regulations in new section 50.67a~~(b)(2)~~, as proposed to be amended by the petition.

Other Petitioned Changes

The petition proposed several revisions to footnotes to 10 CFR parts 50, 52, and 100. First, the petition suggested that the NRC remove references to the National Bureau of Standards (NBS) Handbook 69, "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," in 10 CFR parts 50, 52, and 100 (i.e., sections 50.34, 52.17, 52.47, 52.79, 52.137, 52.157, and 100.11) based on the petition's assertion that the NBS Handbook 69 is outdated, conflicts with 10 CFR part 20, "Standards for Protection Against Radiation," and was only intended to be used for a once-in-a-lifetime accidental or emergency dose to radiation workers. Second, the petition stated that there are inconsistencies between the terms "whole-body dose" and "total effective dose equivalent," describing the 0.25 Sv (25 rem) criterion in current regulations in 10 CFR parts 50, 52, and 100 footnotes. Third, the petition suggested revisions to footnotes to 10 CFR parts 50 and 52 to address the relationship between cancer and radiation exposures. Lastly, the petition noted a grammatical error in a footnote to section 52.17(a)(1)(ix)(A).

The petition provided a review and analysis of the regulatory history of each of the criteria and derivations from the previous whole-body and thyroid criteria to the TEDE criteria (i.e., section 50.34 (61 FR 65157; December 11, 1996)). The petition also provided references to current health physics guidance recommendations from the U.S. Environmental Protection Agency (EPA), the International Commission on Radiological Protection, the International Atomic Energy Agency, Duke University and Duke Medicine, the Health Physics Society, the Centers for Disease Control and Prevention, and the NRC. The petition provided this information to present perspectives between the selected criteria numerical values to radiation protection recommendations

for emergency workers, the general public, and in-utero fetal development. Lastly, the petition provided data listing the current operating reactor fleet analysis of records of licensing-basis results for each of the three section 50.67(b)(2) criteria. This data suggests that a number of operating reactors could meet a uniform 10 rem acceptance criteria without making any changes to their analysis of record radiological consequence analyses and that there is relatively small margin for most facilities with respect to the current 5 rem control room design criterion.

II. Public Comments on the Petition

On May 27, 2020 (85 FR 31709), the NRC published a notice of docketing and request for comment on the PRM in the *Federal Register*. The comment period closed on August 10, 2020. All comment submissions received on this petition are available on https://www.regulations.gov by searching for Docket ID NRC-2020-0055.

Three comment submissions were received: one from the Nuclear Energy Institute and two from private citizens. Of the three comment submissions, one provided general support for the petition, one opposed the petition, and one submission addressed matters outside the scope of the petition. A summary of the substantive comments and the NRC's responses follows. The comments are available as indicated in the Availability of Documents section of this document.

Comment 1: General support for updating the requirements

The commenter endorsed the use of "current science based values" and claimed using data gained over the last 50 years would "better protect populations and ease regulatory burden."

NRC Response:

The NRC agrees with the general assertion that regulations should be based on modern scientific data, operating experience, and analysis; however, the commenter did not present additional new information to support the petitioner's proposal that the NRC should amend its regulations to include a new voluntary rule.

Comment 2: Opposes the petition regarding the need for a universal design and siting criteria for the control room and the public

A commenter recommended that the NRC deny the petition and that no changes be made to specify a uniform value of 0.1 Sv (10 rem) TEDE for offsite locations and the control room design criteria. The comment asserted that § 50.67, 10 CFR part 100, GDC-19, 10 CFR part 20, and by extension, the EPA Protective Action Guidelines (PAGs) all were established for different purposes and the different requirements work together to establish a defense-in-depth strategy to protect the workers and the public. The comment also noted that 10 CFR part 20 dose limits are not directly applicable in an emergency, and that industry uses 10 CFR part 20 in conjunction with the EPA's PAGs, in responding to a significant plant event. The comment stated that the petitioner did not provide any supporting evidence that members of the public perceive the NRC to emphasize protection of the control room over protection of the public. The comment also stated that the dose value that the NRC has established for control room operators likely enhances the perception that protection of the public is the primary concern. Furthermore, the comment indicated that 10 CFR part 100 appears to address this concern by stating that the numbers in the criteria are not intended to constitute acceptable limits for emergency doses to the public under accident conditions. Lastly, the commenter noted that they are unaware of any licensee that would pursue the

voluntary rule and argued that changing nuclear power plant licensing-basis regulations would place additional burdens on licensees (e.g., revising licensing-basis documents, procedures, and training programs, etc.) with no commensurate improvement in safety.

NRC Response:

The NRC agrees the petition should be denied. The NRC agrees that changes to the regulations to allow licensees to voluntarily adopt a revised universal acceptance criterion of 0.1 Sv (10 rem) TEDE for the control room, exclusion area boundary, and the low population zone outer boundary are not needed.

Further, the NRC agrees with the comment that the acceptance criteria in 10 CFR parts 50 and 52 are not operational radiation exposure limits under emergency conditions and recognizes that they are not the sole regulations applicable during an event. While both the siting criteria and control room design criterion are computed in terms of “dose,” they are “figures-of-merit” used to characterize the minimum necessary design, fabrication, construction, testing, and performance ~~of~~ requirements for structures, systems, and components. The numerical selection for both acceptance criteria does not imply acceptable radiation exposure limits for the public or control room operators under accident conditions. The acceptance criteria represent reference values to be used for evaluating plant features and site characteristics intended to mitigate the radiological consequences of accidents to provide assurance of low risk to the public under postulated accidents. The current radiation protection framework, including the requirements of section 50.67, is coherent and consistent with international and national radiation protection standards and recommendations, and continue to provide reasonable assurance of adequate protection of control room operations and the public.

III. Reasons for Denial

The NRC is denying the petition. This is based on the consideration of defense-in-depth features of licensed nuclear power plants; the intended purpose of the 0.25 Sv (25 rem) TEDE siting criteria as a reference value to evaluate plant design features; modern health physics knowledge and recommendations; and previous NRC decisions related to the use of the 0.05 Sv (5 rem) TEDE for the control room design criteria and 0.25 Sv (25 rem) for the exclusion area boundary and the low population zone outer boundary.

The petition requested that the NRC ~~revise section 50.67(b)(2) to~~ develop a new rule (section 50.67a) that would allow licensees to voluntarily adopt revised accident dose acceptance criteria of 0.1 Sv (10 rem) TEDE for the control room, exclusion area boundary, and the low population zone outer boundary. The NRC assessed the selected numerical radiation dose values referenced in section 50.67(b)(2), considering the modern health physics recommendations and current plant design information provided by the petition. The NRC also assessed the criteria based on the historical evaluation and previous NRC decisions for establishing these numerical values as representative reference values to be used for evaluating plant features and site characteristics intended to mitigate the radiological consequences of accidents to provide reasonable assurance of adequate protection to the public under postulated accidents. The evaluation was performed using the criteria provided in section 2.803, as summarized below. Based on this evaluation, the NRC concluded that the current regulations provide an adequate level of protection and rulemaking is not justified.

The siting and control room design criteria in section 50.67(b)(2) require, in part, that an individual located at any point on the outer boundary of the low population zone would not receive a radiation dose in excess of 0.25 Sv (25 rem) TEDE and that

personnel in the control room would not receive radiation exposures in excess of 0.05 Sv (5 rem) TEDE under accident conditions for the duration of the accident. A detailed rationale for the use of 0.25 Sv (25 rem) TEDE as an accident dose criterion and the use of the 2-hour exposure period resulting in the maximum dose is provided in the final rule on reactor site criteria for nuclear power plants (61 FR 65157; December 11, 1996). As discussed in the final rule preamble, the NRC's use of the 0.25 Sv (25 rem) TEDE value does not mean that this is an acceptable limit for an emergency dose to the public under accident conditions, but only that it represents a reference value to be used for evaluating plant features and site characteristics intended to mitigate the radiological consequences of accidents in order to provide assurance of low risk to the public under postulated accidents.

A detailed rationale for the use of the 0.05 Sv (5 rem) TEDE control room design criterion is provided in the final rule for use of alternative source terms for operating reactors (64 FR 71990; December 23, 1999). In the preamble for the final alternate source term rule, the NRC stated that the control room design criteria are not an acceptable exposure during emergency conditions, or that other radiation protection standards of 10 CFR part 20, including individual organ dose limits, do not apply. Instead, the control room design criterion is provided only to assess the acceptability of design provisions for protecting control room operators under postulated DBA conditions. Further, the NRC noted that DBA conditions assumed in these analyses, although credible, generally do not represent actual accident sequences but are specified as conservative surrogates to create bounding conditions for assessing the acceptability of engineered safety features.

In evaluating PRM-50-121, the NRC also considered the following: 1) providing a consistent dosimetry methodology with 10 CFR part 20 based on the recommendations contained in International Commission on Radiological Protection (ICRP) Publication 26,

adopted January 17, 1977, and the scientific information contained in ICRP Publication 30; 2) the basis of the conversion from whole-body and thyroid dose criteria to the updated TEDE criteria described in the final rule on reactor site criteria for nuclear power plants in light of more modern health physics models; 3) the significant margins that exist for operating plants compared to the latent cancer fatality quantitative health objective established by the NRC's Safety Goal policy (51 FR 30028; August 21, 1986); and 4) the extensive NRC and industry licensing experience in applying these dose acceptance criteria and the inherent conservatisms in their application. In addition, the NRC considered operational experience with the maximum whole-body dose received following major core damage accidents at Three Mile Island in March 1979 and the Fukushima Daiichi Nuclear Power Plant in March 2011. As discussed in the final rule on reactor site criteria, the maximum whole body dose received by an actual individual during the Three Mile Island accident was estimated to be about 0.1 rem. The NRC also considered recently discontinued rulemaking activities (81 FR 95410; December 28, 2016) associated with revising the radiation protection regulations in 10 CFR part 20 and 10 CFR part 50, appendix I. This rulemaking activity was initially intended, in part, to reflect modern health physics recommendations from the ICRP. In discontinuing this rulemaking activity, the NRC noted that the current NRC regulatory framework continues to provide adequate protection of the health and safety of workers, the public and the environment.

Further, there is additional defense-in-depth in plant designs and operational programs (e.g., conservative analysis assumptions, engineered safety features to reduce likelihood of severe accidents, emergency planning) to minimize risk of public exposure following an accident. Research studies (e.g., NUREG-1935, "State-of-the-Art Reactor Consequence Analysis (SOARCA) Report," NUREG-1150, "Severe Accident Risks: An Assessment of Five U.S. Nuclear Power Plants," and the ongoing Level 3

probabilistic risk assessment project) and licensing experience demonstrate that these defense-in-depth measures maintain an appropriately low risk of radiation exposure to the public.

Regarding the petitioner's observation concerning the footnotes to 10 CFR parts 50, 52, and 100, the NRC agrees with the petitioner that the references to the NBS Handbook 69 are dated, but they do reflect the position of the Commission at the time the rule was initiated. This issue was addressed in Information Notice 84-40, "Emergency Worker Doses," which states, in part, that "[n]o endorsement of the NBS (National Bureau of Standards) Handbook 69 emergency dose guidelines/recommendations nor application to 10 CFR [part] 20 was ever intended." References to the NBS Handbook 69 in the regulations were also addressed in the final rule on reactor site criteria for nuclear power plants (61 FR 65157; December 11, 1996), where the NRC determined that the "footnote also clearly states that the Commission's use of this value does not imply that it considers it to be an acceptable limit for an emergency dose to the public under accident conditions, but only that it represents a reference value to be used for evaluating plant features and site characteristics." The footnotes in 10 CFR parts 50, 52, and 100 only provide explanatory information, do not provide regulatory requirements, and have not caused regulatory issues with licensing actions due to the inconsistent language from these parts (e.g., design certifications, combined license approvals). Thus, while updating these footnotes may be appropriate to reflect the current basis for the siting and control room design criteria, the NRC finds that their clarification does not, on their own, justify rulemaking.

The petitioner also noted a grammatical error in the footnote to section 52.17(a)(1)(ix)(A) and recommended that it be revised from "in the event of an accidents" to "in the event of an accident." The NRC corrected the error in an administrative correction rule published on November 14, 2022 (87 FR 68028).

The NRC concludes that the concerns presented in the petition do not reflect immediate safety concerns. In addition, defense-in-depth features make severe accidents and radiological releases that challenge the reference dose siting and control room design criteria unlikely. Further, recent research studies have demonstrated that a significant margin exists to the NRC's safety goals. Lastly, because the NRC determined that ~~changes to~~a new section 50.67a ~~are~~ is not needed, conforming changes to GDC-19 control room design criteria to allow for 10 rem TEDE and revisions to RG 1.183 are not necessary. The NRC concludes that the existing regulations in 10 CFR part 100 and section 50.67(b)(2) continue to provide reasonable assurance of adequate protection of public health and safety and that rulemaking is not warranted.

V. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO. / *FEDERAL REGISTER* CITATION
PRM-50-121 – Voluntary Adoption of Revised Design Basis Accident Dose Criteria, dated November 23, 2019	ML20050M894
PRM-50-121: Petition for rulemaking; notice of docketing, and request for public comment, dated May 27, 2020	85 FR 31709
Comment from Sandeep Sharma on PRM-50-121 – Voluntary Adoption of Revised Design Basis Accident Dose Criteria; dated June 1, 2020	ML20154K569
Comment from Jerry Kurtz on PRM-50-121 – Voluntary Adoption of Revised Design Basis Accident Dose Criteria; dated July 27, 2020	ML20209A559
Comment from Hilary Lane on behalf of Nuclear Energy Institute (NEI) on PRM-50-121 – Voluntary Adoption of Revised Design Basis Accident Dose Criteria; August 10, 2020	ML20233A589

“Reactor Site Criteria Including Seismic and Earthquake Engineering Criteria for Nuclear Power Plants,” Final Rule, dated December 11, 1996	61 FR 65157
“Safety Goals for the Operation of Nuclear Power Plants,” Policy Statement, dated August 21, 1986	51 FR 30028
“Reactor Site Criteria Including Seismic and Earthquake Engineering Criteria for Nuclear Power Plants and Proposed Denial of Petition from Free Environment, Inc. et al.,” Proposed Rule, dated October 17, 1994	59 FR 52255
“Standards for Protection Against Radiation.” Final Rule, dated May 21, 1991	56 FR 23360
Information Notice No. 84-40: Emergency Worker Doses, dated May 30, 1984	ML103420380
“Rulemaking Activities Being Discontinued by the NRC,” Rulemaking activities; discontinuation, dated December 28, 2016	81 FR 95410
SECY-12-0064 – Recommendation for Policy and Technical Direction to Revise Radiation Protection Regulations and Guidance, dated April 25, 2~~1~~012	ML121020108 (Package)
National Bureau of Standards Handbook 69 “Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupation Exposure,” dated August 1963	ML20206L091
“Use of Alternative Source Terms at Operating Reactors”; Final Rule, dated December 23, 1999	64 FR 71990
“Radiation Protection”, Advance notice of proposed rulemaking; request for comments, dated July 25, 2014	79 FR 43284
“Miscellaneous Corrections”; Final Rule, dated November 14, 2022	87 FR 68028
NUREG-1150 Vol. 1, “Severe Accident Risks: An assessment for Five U.S. Nuclear Power Plants,” dated December 1990	ML120960691
NUREG-1935, “State-of-the-Art Reactor Consequence Analyses (SOARCA) Report,” dated November 2012	ML12332A057
Regulatory Guide 1.183, “Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Plants,” dated July 2000	ML003716792
SECY-11-0089 - Options for Proceeding with Future Level 3 Probabilistic Risk Assessment Activities, dated July 7, 2011	ML11090A039 (Package)

V. Conclusion

For the reasons cited in this document, the NRC is denying PRM-50-121. The current requirements continue to provide reasonable assurance of adequate protection of public health and safety and should not be revised as proposed in the PRM.

Dated June XX, 2023.

For the Nuclear Regulatory Commission.

Brooke P. Clark
Secretary of the Commission

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

{{date:long}}

CTH edits
John Parillo
5440 Marinelli Road #133
Rockville, MD 20852

Dear John Parillo:

I am responding to your petition for rulemaking (PRM) dated November 23, 2019 (Agencywide Documents Access and Management System Accession No. ML20050M894). You requested that the U.S. Nuclear Regulatory Commission (NRC) develop a rule that would allow licensees to voluntarily adopt a uniform 10 rem total effective dose equivalent accident dose acceptance criterion for the control room operators, the exclusion area boundary, and the low population zone boundary. You further requested that the NRC make conforming changes to Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," issued July 2000, and make corrections to footnotes in the regulations that discuss dose acceptance criteria.

The NRC docketed the petition as PRM-50-121 on February 19, 2020, and published a notice of docketing and request for public comment in the *Federal Register* on May 27, 2020 (85 FR 31709). The comment period closed on August 10, 2020, and the NRC received three comment submissions. The public comments are available at https://www.regulations.gov under Docket ID NRC-2020-0055.

The NRC is denying PRM-50-121. The agency considered the petition and the public comments received and has determined that the NRC's current regulations in this area are adequate to protect public health and safety. Additionally, the NRC is currently addressing the control room dose criterion as part of an ongoing rulemaking, "Increased Enrichment of Conventional and Accident Tolerant Fuel Designs for Light-Water Reactors" (88 FR 61986, September 8, 2023).

The reasons for the denial are stated in the enclosed notice, which will be published in the *Federal Register*. Upon publication of the enclosed notice, the NRC will close the docket for PRM-50-121.

You may direct any questions regarding this matter to Tyler Hammock by calling 301-415-1381 or by sending an email to Tyler.Hammock@nrc.gov.

Sincerely,

~~Brooke P. Clark~~Carrie M. Safford
Secretary of the Commission

Enclosure:

Enclosure 2

Federal Register notice