[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 20

[Docket No. PRM-20-26]

[NRC-2005-0017]

James Salsman; Denial of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission.

ACTION: Denial of petition for rulemaking.

SUMMARY: The Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking (PRM-20-26) submitted by James Salsman (petitioner). The petitioner requested that NRC amend its regulations to modify exposure and environmental limits for heavy metal radionuclides, in particular uranium. NRC is denying the petition because current NRC regulations provide adequate protection of public health and safety. The petitioner has not presented sufficient peer-reviewed data, pertinent to the types and levels of exposures associated with the concentration values used in NRC's regulations, to provide a sufficient reason for NRC to initiate a revision of its regulations. Thus, the NRC has decided not to expend limited resources on initiating a rulemaking at this time.

ADDRESSES: You can access publicly available documents related to this petition for rulemaking using the following methods:

Federal e-Rulemaking Portal: Go to http://www.regulations.gov and search for documents filed under Docket ID [NRC-2008-0017].

NRC's Public Document Room (PDR): The public may examine and have copied for a fee publicly available documents at the NRC's PDR, Public File Area O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

NRC's Agencywide Documents Access and Management System (ADAMS): Publicly available documents created or received at the NRC are available electronically at the NRC's electronic Reading Room at http://www.nrc.gov/reading-rm/adams.html. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC PDR reference staff at 1-899-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Frank Cardile, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6185, e-mail frank.cardile@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. The Petition

On June 15, 2005 (70 FR 34699), NRC published a notice of receipt of a petition for rulemaking filed by James Salsman. The petitioner requested that NRC revise its regulations in 10 CFR Part 20 that specify limits for ingestion and inhalation occupational values, effluent concentrations, and releases to sewers, for heavy metal radionuclides, with nonradiological

chemical toxicity hazards exceeding that of their radiological hazards so that those limits properly reflect the hazards associated with danger to organs, reproductive toxicity, and all other known nonradiological aspects of heavy metal toxicity. Specifically, the petition focused on uranium toxicity. The petitioner also requested that the classification for uranium trioxide within Class W, given in the Class column of the table for Uranium-230 in Appendix B to 10 CFR Part 20, be amended to Class D. In addition, the petitioner requested that monomeric (monomolecular) uranium trioxide gas, as produced by the oxidation of U_3O_8 at temperatures above 1000° Celsius, be assigned its own unique solubility class if necessary, when its solubility characteristics become known.

In providing support for the petition, the petitioner states that NRC's regulations were designed to address only the radiological hazard of uranium, and not heavy metal toxicity which is known to be about six orders of magnitude worse. The petitioner believes that current regulations allow intake of more soluble compounds than insoluble compounds and that, in practice, the soluble compounds are more toxic than the insoluble compounds. The petitioner states that this should indicate that long half-life uranium isotope standards need to be revised.

The petitioner states that the current NRC regulations allow an annual inhalation of more than two grams of uranium. The petitioner also states that because "...the LD50/30 [lethal dose to 50 percent of a population in 30 days] of uranyl nitrate (which has considerably less uranyl ion per unit of mass than uranium trioxide) is 2.1 mg/kg in rabbits, 12.6 mg/kg in dogs, 48 mg/kg in rats, and 51 mg/kg in guinea pigs and albino mice," two grams of UO_3 seems very likely to comprise a fatal dose for a 200 pound human (Gmelin Handbook of Inorganic Chemistry, 8th edition, English translation (1982), Vol. U-#A7, pp. 312-322). The petitioner indicates that the values in NRC's regulations seem much too high and were likely derived to avoid immediate kidney failure, without regard to reproductive toxicity nor with sufficient care to avoid allowing

lethal exposures. The petitioner states that the limit of 10 mg/day[1] of soluble uranium compounds (or about half a gram per year) in 10 CFR 20.1201(e) seems likely to allow substantial kidney damage and certain reproductive toxicity. The petitioner states that the correct way to account for the reproductive toxicity is probably to measure resulting mutations of mammalian peripheral lymphocytes.

In support of the petitioner's request for changes to solubility classes, the petitioner states that the primary mode of uranium toxicity involves much greater solubility. The petitioner asserts that UO_3 should be amended from Class W to Class D based on Morrow, et al., Health Physics, 1972 "Inhalation Studies of Uranium Trioxide" (Health Physics, vol. 23 (1972), pp. 273-280), which states: "inhalation studies with uranium trioxide (UO_3) indicated that the material was more similar to soluble uranyl salts than to the so-called insoluble oxides UO_3 is rapidly removed from the lungs, with most following a 4.7 day biological half time." The petitioner also states that monomeric uranium trioxide gas will turn out to be absorbed more rapidly in the mammalian lung than uranyl nitrate, because of its monomolecular gas nature, and not merely about as rapidly as the studies of granular uranium trioxide by P.E. Morrow, et al., indicate ("Inhalation Studies of Uranium Trioxide," Health Physics, vol. 23 (1972), pp. 273-280). The petitioner states that even Class D may not be appropriate for monomolecular uranium trioxide gas and that it should be assigned its own unique solubility class, if necessary, when its solubility characteristics become known (R. J. Ackermann, R. J. Thorn, C. Alexander, and M. Tetenbaum, in "Free Energies of Formation of Gaseous Uranium, Molybdenum, and Tungsten Trioxides," Journal of Physical Chemistry, vol. 64 (1960) pp. 350-355: "gaseous monomeric uranium trioxide is the principal species produced by the reaction of U_3O_8 with oxygen" at 1200° Kelvin and above).

[1] 10 CFR 20.1201(e) limits soluble uranium intake to 10 mg/week, not 10 mg/day as asserted by the petitioner.

In providing additional technical support of the petition, the petitioner referenced several studies regarding potential uranium toxicity, including follow-up studies of health impacts on Gulf War veterans of exposure to depleted uranium (DU) (see Section III(4) of this document). In addition to these references submitted as part of the petition, the petitioner also referenced several studies in three e-mails submitted in support of the petition as part of the public comment process. These documents, discussed in Section II of this document, were also considered as part of NRC's response to the petition in Section III(4) of this document. In addition, on April 3, 2005, the petitioner filed a separate petition (ML051240497) under 10 CFR 2.206 of the Commission's regulations regarding impacts of operation of DU munitions licensees on the public health and safety. As part of that proceeding, the petitioner submitted several additional documents related to potential impacts of uranium chemical toxicology on public health and safety and uranium chemical behavior in various environments. These studies were also considered as part of NRC's response to the petition in Section III(4) of this document. All of the supporting studies referenced by the petitioner focused on the toxicity of uranium; similar studies were not submitted regarding other heavy metals.

II. Public Comments on the Petition

The notice of receipt of the petition for rulemaking invited interested persons to submit comments. The comment period closed on August 29, 2005. NRC received eight comment letters before the comment period closed and four additional comments after the close of the comment period. There were four letters from the general public supporting the petition, including three from the petitioner. There were eight letters opposing the petition, including five from the uranium industry, one from the Nuclear Energy Institute (NEI), one from a physician, and one from an individual.

Commenters supporting the petition noted that the U.S. Code, Title 42, Section 2114, states that NRC is to protect public health and safety from non-radiological as well as radiological hazards.[2] These commenters state that current regulations are inadequate because they ignore reproductive toxicity of heavy metals and that toxins should not be released if a fully established toxicology profile is not prepared. These commenters cite information indicating that the chemical toxicity of uranium is 6 orders of magnitude greater than its radiological toxicity in vitro and that the toxicity profile for uranium combustion product inhalation in humans is unknown beyond 14 years and that uranium accumulates in testes damaging sperm cells and induces chromosome damage. These commenters referenced studies that specifically considered potential uranium reproductive toxicity on Gulf War Veterans and also referenced additional studies which cited potential chemical neurotoxicity of uranium based on studies of effects of brain function in rats following intake of uranium (see Section III(4) of this document). In referring to a U.S. Transuranium and Uranium Registries (USTUR) study cited by the uranium industry, these commenters stated that a relative amount of uranium in a human body in the USTUR study has no bearing on the question of reproductive toxicity. Instead, these commenters assert that only the extent to which the uranium may cause chromosome damage is important, and that regulators should establish uranium exposure limits to avoid unacceptable levels of reproductive harm. These commenters state that despite the amount of data being small and/or the level of harm not known, the Commission must protect public health and safety by setting acceptable exposure limits even if that requires extrapolating the existing known toxicity profile of heavy metal and assuming worst cases and/or performing additional research on uranium exposure.

[2]U.S. Code, Title 42, Section 2114 applies to a specific category of byproduct material defined in section 11(e)(2) of the Atomic Energy Act of 1954, as amended. Section 11(e)(2) byproduct material includes “the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.”

Those commenters who opposed the petition noted that non-radiological effects are better, and adequately, addressed elsewhere in Federal regulations and that NRC's current regulations address both radiological and chemical toxicity of uranium. In addition, these commenters note that NRC recognizes that the chemical toxicity of uranium is greater than radiological toxicity in 10 CFR 20.1201 and that the current limits set forth in 10 CFR Part 20 are protective of human health. With regard to chemical toxicity, these commenters cited a National Institute of Occupational Safety and Health study on uranium mill workers that states that mortality was less than expected and lower than the general population, and that there is no statistically significant increase in deaths due to renal failure. These commenters note that this suggests that current low exposure standards have a considerable margin of safety with respect to chemical toxicity. These commenters also stated that workers engaged in handling uranium have experienced very few, if any, adverse health impacts. These commenters also provided comment on studies cited by the petitioner on reproductive toxicity and neurotoxicity (see Section III(4) of this document). These commenters cited a USTUR study which stated that levels in testes of a man exposed to uranium during a working career are not uncommon among that seen in the aged, indicating that uranium in reproductive organs is not a major issue. These commenters note that some data cited in the petition may not adequately represent American workers, are not rigorously documented, or were at doses in excess of uranium exposure limits. Thus, overall, these commenters note that, until data from rigorous toxicological studies are available, there is inadequate data on uranium toxicity at current permissible exposure levels to warrant changes to 10 CFR Part 20.

III. Reasons for Denial

NRC is denying this petition. The rationale for NRC's denial of the petition is discussed as follows.

(1) NRC's Current Regulations Limiting Occupational Exposure Provide Adequate Protection of Public Health and Safety.

NRC has established standards for protection against ionizing radiation resulting from activities conducted by licensees and has codified these standards in 10 CFR Part 20. These regulations are intended to control the receipt, possession, use, transfer, and disposal of licensed material by its licensees. Licensed material is any source, byproduct, or special nuclear material received, possessed, used, transferred, or disposed of under a general or specific license issued by NRC.

Appendix B, Table 1, to 10 CFR Part 20 lists "Annual Limits on Intake" (ALI) and "Derived Air Concentrations" (DAC) of radionuclides for occupational exposure. In addition to these radiological values, NRC's regulations in 10 CFR Part 20 also contain the following specific limits for uranium based on chemical toxicity: § 20.1201(e) requires licensees to limit soluble uranium intake by an occupationally-exposed individual to 10 mgU/week; and Appendix B to 10 CFR Part 20, Footnote 3, limits occupational exposure to mixtures of soluble uranium to an average of 2 mgU/m^3 over a 40 hour period. These uranium limits are based on chemical toxicity and are limiting in situations where the ALI and DAC would allow intake of greater than 10 mgU/week, or exposure to greater than 2 mgU/m^3 averaged over a 40 hour period.

The basis for NRC's occupational chemical toxicity limits for uranium are given in an amendment to 10 CFR Part 20 (39 FR 13671; April 16, 1974) and are based on the threshold limit value (TLV) of 0.2 mgU/m^3 as adopted by the American Conference of Governmental

Industrial Hygienists (ACGIH). Federal Guidance Report (FGR) No. 11, which was published by the Environmental Protection Agency's (EPA) Office of Radiation Programs, states that recommendations of the ACGIH should be consulted when limiting the airborne concentration of chemical substances in the workplace.[3] The ACGIH is an independent scientific organization made up of industrial hygienists and other occupational health and safety professionals and whose committees review existing published and peer-reviewed literature in various scientific disciplines (e.g., industrial hygiene, toxicology, occupational medicine, and epidemiology). Based on these reviews, the ACGIH publishes guidelines known as TLVs for making decisions regarding safe levels of exposure to various chemical agents found in the workplace. Recommendations of the ACGIH consider health impairments that shorten life expectancy, compromise physiological function, impair ability to resist other toxic substances, or adversely affect reproductive function, and are reviewed and updated periodically. ACGIH notes that each year it publishes TLVs, provides public notice of its TLVs, invites interested parties to submit substantive data and comments to assist in its deliberations, and places certain chemicals on its "Under Study" list. This information and data is then collected and reviewed by an ACGIH committee and ratified, as appropriate, for inclusion in ACGIH updates on TLVs. Despite the continuing review undertaken during this process, the uranium TLV of 0.2 mgU/m^3 has not been changed by ACGIH in 30 years nor, as of May 2008, is the uranium TLV listed on the ACGIH's Under Study list on its website. Based on the processes for development and review of information in this area, NRC believes that its current occupational exposure limits for uranium have a sound scientific and technical basis and provide adequate protection of public health and safety.

[3] Although the ACGIH concentration limit is based on inhalation, rather than ingestion, the § 20.1201(e) occupational intake limit (which is based on the ACGIH limit) is conservative with respect to ingestion pathways because of the significantly lower absorption of soluble uranium into the bloodstream though the gastrointestinal tract than through the lungs (Reference: Institute of Medicine "Gulf War and Health," copyright 2000, National Academy Press, Washington DC).

(2) NRC's Effluent Values Provide Adequate Protection of Public Health and Safety.

In addition to occupational exposure limits, Appendix B to 10 CFR Part 20 also contains concentration values for release of nuclides in effluents. Specifically, Tables 2 and 3 in Appendix B contain effluent concentration values for releases to unrestricted areas and for releases to sewers, respectively. The effluent and sewer concentration values in Tables 2 and 3 are derived by reducing the radiological occupational limits in Table 1 by a factor of 300 for air effluents, a factor of 100 for water effluents, and a factor of 10 for sewer discharges. These factors are applied to account for the substantially lower radiation dose limits applicable to the general public; increased exposure time applicable to the general public compared to occupational exposure time; different inhalation rates; and, as appropriate, age. Application of these reducing factors provides some assurance that the effluent and sewer values in Tables 2 and 3 are protective from a chemical standpoint. For example, for natural uranium and uranium-238 (two nuclides listed in 10 CFR Part 20, Appendix B, which reasonably approximate DU behavior) the radiological air effluent values in Table 2 provide protection against chemical effects of uranium because the air effluent values are 300 times less than the radiological air occupational limits in Table 1. In turn, the radiological air occupational limits in Table 1 for natural uranium are similar in magnitude to the uranium chemical limit.[4] Further, the radiological water effluent and sewer discharge values for natural uranium and uranium-238 are similar in magnitude to the uranium chemical limit. As noted in footnote 4 to this document, however, absorption of soluble uranium is significantly lower for ingestion than for inhalation. In addition, with regard to sewer releases, additional dilution and removal is likely to occur prior to release to

[4] Although the chemical toxicity and radiological values are expressed in different units, they can be compared by using the specific activity of the form of uranium in question and by using, as appropriate, the air intake and ingestion intake values given in Appendix B to Part 20. Specific activity is defined as the radioactivity of a given nuclide per gram of the material.

the environment, either as part of the discharge process itself or during processes which occur at the water treatment plant that processes a licensee's sewer discharges.

Other NRC regulations further limit the amount of radioactive material that may be released to unrestricted areas and sewers to levels below the public dose limits upon which the values in Tables 2 and 3 are based. These requirements include § 20.1101(b), which requires that each NRC licensee use procedures and engineering controls to achieve doses to members of the public that are "as low as reasonably achievable (ALARA);" §§ 20.1101(d) and 50.34a, which contain requirements for implementing the ALARA principal; and 20.1301(e), which constrains allowable doses to the public, resulting from uranium fuel cycle operations, to levels below the public dose limits upon which the values in Tables 2 and 3 are based. In addition, the assumptions used to derive the effluent values in Appendix B are considered conservative with regard to any actual exposures likely to be received because they assume continuous (24 hours/day, 7 days/week) exposure at the facility boundary without additional dilution in the environment. Application of these regulatory requirements and conservative exposure assumptions serve to limit any actual exposure likely to be received by a member of the public to levels below the values in Appendix B to 10 CFR Part 20.

Based on the above, it is unlikely that any effluent releases to unrestricted areas or releases to sewers meeting the effluent limits in Appendix B to 10 CFR Part 20 would result in chemically significant exposures. In addition, application of the other NRC regulations and the conservative exposure assumptions discussed previously serve to limit any actual exposures to levels below the values given in Tables 2 and 3 of Appendix B to 10 CFR Part 20. Therefore, NRC believes that its current limits provide adequate protection of public health and safety.

(3) NRC's Solubility Classification Has a Sound Technical Basis.

Appendix B to 10 CFR Part 20 groups uranium according to solubility classes which refer to their retention (days, weeks, years) in the pulmonary region of the lung. The solubility classifications in Appendix B to 10 CFR Part 20 are consistent with those in FGR No. 11, issued by the EPA in September 1988. They are also consistent with the discussion of solubility in the US Department of Health and Human Services report on toxicological profile for uranium. The solubility classifications in Appendix B to 10 CFR Part 20 are taken from the International Commission on Radiological Protection (ICRP) Publication 30 issued by the ICRP (published in a series of reports, supplements, and addenda from 1979 to 1989). FGR No. 11 and ICRP Publication 30 discuss the basis for placing the uranium compounds in the different solubility classes. ICRP is an expert body in the field of establishing radiation standards and NRC often uses recommendations of that body in establishing its standards in 10 CFR Part 20.

(4) Studies Presented in Support of the Petition Do Not Provide a Sufficient Reason for NRC to Revise its Current Occupational, Effluent, and Sewer Limits, and Solubility Classification.

As noted in Section I of this document, NRC considered information submitted in support of the petition, either as part of the petition, as comments on the petition, or as part of the § 2.206 petition on impacts of operation of DU munitions licensees on public health and safety. The more than 20 studies and reports referenced by the petitioner have included information based on data from Gulf War Veterans with exposure to DU during military deployment; results from studies involving exposure of animals to DU; and uranium chemical behavior in various environments. The petitioner indicated that these studies suggested renal, reproductive, and neurotoxic effects on humans that could occur as a result of exposure to DU. For example, the petitioner specifically referenced excerpts from the Gulf War studies stating conclusions, such

as the risk of malformation among pregnancies being 50 percent greater for Gulf War Veterans when compared to non-Gulf War Veterans; and that infants conceived to Gulf War Veterans had significantly higher birth defects (see Docketed Comment Number 2 from James Salsman, dated June 16, 2005 (ML051680165)). The petitioner also noted that tests on rats involving exposure to DU resulted in strong evidence of DU accumulation in the testes and kidneys of the tested animals. In addition to these health effects studies, the petitioner presented data on uranium solubility in technical documents referred to in the petition (see Section I of this document) and in references to other studies as part of the separate petition filed under 10 CFR 2.206. As noted in Section II of this document, those commenters who opposed the petition provided comment on studies cited by the petitioner and did not agree that the studies cited were sufficient to support a change to 10 CFR Part 20, noting specifically that study results from war-time exposures do not represent current occupational exposure limits in Part 20 and that data from animal experiments were at exposure levels well in excess of 10 CFR 20 uranium exposure limits. In general, these commenters indicated that the studies cited are too premature and/or not rigorous enough in their methodology to support a change in NRC's regulations.

NRC has concluded that, taken as a whole, the studies submitted by the petitioner do not provide a sufficient reason to revise the occupational exposure and effluent limits or solubility values currently codified in 10 CFR Part 20. For example, many of the studies referenced by the petitioner investigate the correlation between health effects and exposure to DU munitions during the Gulf War. The exposure scenarios in these Gulf War studies included scenarios of exposure to DU dusts, vapors, and aerosols; to permanently imbedded shrapnel containing DU; and to a complex, potentially synergistic, set of various agents including infectious agents, chemical warfare agents, vaccines, and environmental pollutants. Similarly, in considering the animal studies submitted by the petitioner, NRC notes that the studies did not

provide conclusive dose-response relationships, suggesting instead that further specific analyses were needed. Further, the effects described in certain studies resulted from uranium exposure in excess of doses allowed by current regulations. Thus, these studies would not challenge current uranium chemical or radiological limits for humans. In addition, while the petition requested the revision of exposure and effluent limits for all heavy metal radionuclides with chemical hazards that exceed their radiological hazards, the supporting information submitted by the petitioner focused exclusively on uranium. The petitioner did not provide information or studies addressing other heavy metal radionuclides that would cause the NRC to revise the exposure and effluent limits currently codified in 10 CFR Part 20. With regard to the studies on solubility, NRC does not consider the data sufficient to prompt the adoption of values different from those recommended in FGR 11 and ICRP Publication 30 because the environments considered in certain of the studies (e.g., war-time environment with combustion after DU munitions hit hard targets, loss of coolant accidents) are not comparable to the broad range of licensees regulated under 10 CFR Part 20, and the chemical species noted are generated by physical and chemical interactions not associated with the broad range of license activities covered by Part 20.

Thus, based on review of the referenced studies, NRC does not believe that these studies provide sufficient support for a revision to the limits and values in Part 20 because of the uncertainty in the levels of exposure in the war arena; differences in exposure scenarios; potential confounding effects of exposures to other environmental pollutants; and differences between the uranium doses evaluated in the studies and the occupational and public doses that are likely to be received given NRC's current occupational and effluent limits. In addition, the studies referenced do not provide dose-response information that would be necessary to revise NRC's uranium chemical exposure limits in a meaningful way. These studies also generally note that caution should be used in interpreting results given and that further investigations

should be made. Other commenters on the petition noted that data in the studies are either already addressed by existing regulations or are premature to influence public policy with respect to the issues NRC is considering.

(5) Relationship of this Rulemaking Petition to Petitions Submitted Pursuant to 10 CFR 2.206.

The request made by the petitioner in this petition for rulemaking was limited to changes to the 10 CFR Part 20 occupational exposure limits, effluent limits, and solubility categorization of heavy metal nuclides, with a particular focus on uranium. The petitioner did not directly raise specific concerns with regulations governing the licensing and operations of DU munitions licensees in his rulemaking petition. As noted in Section I of this document, on April 3, 2005, the petitioner filed a separate petition (ML051240497) under NRC's § 2.206 related to the licensing and operations of DU munitions licensees.

The NRC denied the petitioner's initial § 2.206 petition (ML051240497) on its merits in a decision dated December 30, 2005 (ML053460450). The petitioner submitted two additional § 2.206 petitions on this subject dated July 12, 2006 (ML062140659), and December 2, 2006 (ML070080059). The NRC rejected both of these petitions by letters dated September 26, 2006 (ML062640210), and May 4, 2007 (ML071170288), respectively. The NRC's § 2.206 denial and rejection letters referenced this rulemaking proceeding to the extent that the petitioner's requests constituted a generic concern about the nature and magnitude of safety hazards associated with inhaled byproducts of DU and the adequacy of NRC regulations pertaining to limits for ingestion and inhalation occupational values, effluent concentrations, and releases to sewers. With regard to these generic concerns and based on the information reviewed in evaluating this petition for rulemaking, the NRC believes that the occupational exposure and effluent limits for uranium contained in Part 20 – which apply to DU munitions licensees – are

adequate to protect public health and safety, and, therefore, the NRC does not believe that changes in the regulations governing licensed use of DU munitions are required at this time. As stated in the NRC's May 4, 2007, letter to the petitioner (ML071170288), the NRC does not have the statutory authority to regulate foreign or combat use of DU munitions.

IV. Conclusion

NRC is denying the petition because current NRC regulations have a sound scientific and technical basis and provide adequate protection of public health and safety. In developing these regulations, NRC considered both the radiological and chemical toxicity of uranium, ultimately adopting the TLV for uranium established by the ACGIH. The ACGIH is an expert body in the area of chemical toxicity and federal guidance recommends using ACGIH limits when setting chemical exposure limits. As discussed in Section III(1) of this document, the ACGIH has a process for updating TLVs but has not updated the uranium TLV at this time. The information provided by the petitioner does not provide a sufficient reason to initiate a revision of NRC's existing requirements. Specifically, the petitioner has not presented sufficient peer-

reviewed data, pertinent to the types and levels of exposures associated with the concentration values used in Appendix B to 10 CFR Part 20, to provide a sufficient reason for NRC to initiate a revision of its regulations. Thus, the NRC has decided not to expend limited resources initiating a rulemaking at this time.

For the reasons cited in this document, the NRC denies this petition.

Dated at Rockville, Maryland, this 11th day of July, 2008.

For the Nuclear Regulatory Commission.

/RA/

R. W. Borchardt,
Executive Director for Operations.

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/RA/

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Executive Director for Operations.

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