

# RULEMAKING ISSUE

## (Notation Vote)

September 7, 2007

SECY-07-0155

FOR: The Commissioners

FROM: Luis A. Reyes  
Executive Director for Operations /RA/

SUBJECT: DENIAL OF A PETITION FOR RULEMAKING TO RECONCILE NRC  
GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR NUCLEAR  
POWER PLANT OPERATING LICENSE RENEWAL APPLICATIONS  
WITH THE NATIONAL ACADEMY OF SCIENCES HEALTH RISKS  
FROM EXPOSURE TO LOW LEVELS OF IONIZING RADIATION:  
BIOLOGICAL EFFECTS OF IONIZING RADIATION VII, SEVENTH ED.,  
2005 REPORT (PRM-51-11)

PURPOSE:

To obtain Commission approval to deny a petition for rulemaking (PRM) and for publication of the Notice in the *Federal Register*. This petition was requesting that the Nuclear Regulatory Commission (NRC) reconcile its Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437 (GEIS), issued in May 1996, with the National Academy of Sciences (NAS) Health Risks from Exposure to Low Levels of Ionizing Radiation: Biological Effects of Ionizing Radiation (BEIR) VII, Seventh Ed., 2005 report. This paper does not address any new commitments or resource implications.

BACKGROUND:

Entergy Nuclear Operations, Inc., (Entergy) submitted an application for renewal of Operating License No. DPR 28 for an additional 20 years of operation at the Vermont Yankee Nuclear Power Station (VYNPS). The VYNPS is located in the town of Vernon, Vermont, in Windham

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SECY NOTE: TO BE MADE PUBLIC 5 BUSINESS DAYS AFTER LETTER IS SENT TO PETITIONER.

County on the west shore of the Connecticut River immediately upstream of the Vernon Hydroelectric Station. The operating license for VYNPS expires on March 21, 2012. A notice of receipt and availability of the license renewal application, which included the applicant's environmental report, was published in the *Federal Register* on February 6, 2006 (71 FR 6102). Subsequently, the NRC published a Notice of Intent to Prepare an Environmental Impact Statement and Conduct a Scoping Process on April 21, 2006 (71 FR 20733). On June 23, 2006, the NRC received the petitioner's comments, which included the request for a petition for rulemaking.

On November 20, 2006 (71 FR 67072), the NRC published a notice of receipt of a petition for rulemaking filed by Sally Shaw (the petitioner). The petitioner requested that the NRC reconcile the GEIS with the NAS BEIR VII report, which was released in 2005. The GEIS incorporates data from BEIR V, an earlier NAS report that was released in 1990. The applicable NRC regulation, 10 CFR 51.95©, requires that the Commission prepare an environmental impact statement, which is a supplement to NUREG-1437. A copy of the petition can be found in Agencywide Documents Access Management System (ADAMS) under accession number ML061770056.

Specifically, the petitioner requests that the NRC consider the NAS BEIR VII report as new and significant information and reevaluate the radiological health effects conclusions set forth in the GEIS, including early fatalities, latent fatalities, and any injury projections based on this information. The petitioner asserts that BEIR VII represents the "current science," and states that BEIR VII, unlike BEIR V, "estimates risks for cancer incidence rates as well as mortality and also provides detailed risk figures according to age of exposure for males and females, by cancer type." According to the petitioner, BEIR VII shows that the cancer mortality risks for women and children is much higher than for men. Further, the petitioner asserts that the GEIS' radiological impact analysis is calculated based on an "arbitrary and false" threshold dose model that implies dose received below the threshold would not be of "regulatory concern." In this regard, the petitioner refers to BEIR VII, which concludes that there is no evidence of a "threshold dose phenomenon." The petitioner also asserts that the GEIS contains incorrect radiation risks to nuclear workers based on BEIR V. The petitioner requests that these radiation risks be recalculated using BEIR VII and the latest science in medical journals, "which include exposure to internal radiation sources (alpha and beta emitters), via inhalation or ingestion." Finally, the petitioner asserts that the GEIS conclusion, which assumes that non-stochastic effects will not occur if the dose equivalent from internal and external sources combined is less than 50 rem per year, must be recalculated in light of BEIR VII.

The NRC received 74 comments on this petition. Of the 74 comments, 69 supported granting the petition. No comments were opposed to the petition and five comments were not applicable to this petition. The letters in support of the petition were essentially identical and contained one or more of the following assertions that NRC needs to: (1) protect the most vulnerable populations in the regulatory standards; (2) recognize that "allowable" levels are not safe; (3) consider radiation damage from inhaling or ingesting radionuclides; and (4) recognize that there is no safe radiation dose. Information regarding this petition and comments can be accessed in ADAMS.

DISCUSSION:

The staff recommends denying the petition. In 2005, the staff performed a review and concluded in Commission Paper (SECY-05-0202), "Staff Review of the National Academies Study of the Health Risks from Exposure to Low Levels of Ionizing Radiation (BEIR VII)," dated October 29, 2005 (ADAMS ML0526405321), that the current scientific evidence in the BEIR VII report is consistent with NRC's belief that there is a linear, no-threshold dose response relationship between exposure to ionizing radiation and the development of cancer in humans. The staff also concluded that the findings in the BEIR VII report are consistent with the system of radiological protection that the NRC uses to develop its regulations and that none of the findings in the report warrant initiating any immediate change to NRC regulations or guidance, including the GEIS.

Additionally, the staff is in the process of updating the overall GEIS report through a planned rulemaking to include lessons learned from reviewing plant specific environmental impact reports and recent scientific studies, including the BEIR VII report concerning health effects associated with radiation exposure. Although the petition highlights that BEIR VII contains a more refined risk assessment based on additional medical data and a better dosimetry system, the finding does not provide significant information or arguments that were not previously considered by the Commission in the development of its radiation protection standards and the GEIS report. The specific issues raised in the petition are already considered in the NRC's current radiation protection and standards, and continue to adequately protect the public health and safety and environment. Also, the radiological health and environmental impact assessments contained in the GEIS remain valid.

RECOMMENDATION:

That the Commission:

Approve the denial of the subject petition for rulemaking and publication of the notice (Enclosure 1) of the denial.

Note that a letter is attached for the Secretary's signature (Enclosure 2) informing the petitioner of the Commission's decision to deny the petition.

- a. The Office of Public Affairs will issue a press release when the denial of the petition is filed with the Office of the Federal Register.
- b. Congressional letters informing the NRC's oversight committees are included for the office of Congressional Affairs' signatures.

The Commissioners

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COORDINATION:

The Office of the General Counsel has reviewed this package and has no legal objection to the denial of this petition.

*/RA/*

Luis A. Reyes  
Executive Director  
for Operations

Enclosures:

1. *Federal Register* Notice
2. Letter to Petitioner

COORDINATION:

The Office of the General Counsel has reviewed this package and has no legal objection to the denial of this petition.

*/RA/*

Luis A. Reyes  
Executive Director  
for Operations

Enclosures:

1. *Federal Register* Notice
2. Letter to Petitioner

**ADAMS Accession No.: ML071930074**

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