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MEMORANDUM

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

To: Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Re: 10CFR35, Docket No. PRN-35-18  
Peter G. Crane; Receipt of Petition for Rulemaking

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From: Frank P. Castronovo, PhD *PC*  
Radiation Safety Officer  
Administrator-Radiation Safety Committee  
Brigham & Women's Hospital  
Boston, MA 02115

On behalf of the Brigham & Women's Hospital's Radiation Safety Committee, the following comment pertains to Mr. Peter Crane's Petition to revoke the rule dealing with the release of patients who retain more than 30 millicuries (mCi) of radioactive I-131 in their bodies.

In 1999 the Brigham and Women's Hospital applied for a variance from existing regulations pertaining to the release of individuals containing therapeutic quantities of I-131. The variance was approved and, since then, we have released approximately 500 patients after the administration of therapeutic quantities of I-131. The radiation controls we have in place assure us that the total dose equivalent to any other individual who comes in contact with the released individual will not exceed 5 mSv (0.5 rem). A list of radiation safety instructions is provided to assist the patient and "family members" in maintaining ALARA behavior during the treatment. In addition, the Radiation Safety Officer is available for consultation by page. Individuals are chosen for outpatient treatment-status only after an in-depth review of their home environment. Patients who are unable to do this are then offered in-patient admission. While we have not performed a study to determine the actual radiation dose to "family members", several investigators have done so. An excellent publication in this regard is from the Journal of the American Medical Association that reported a mean family effective dose of 0.24 mSv (0.024 rem), well below the 5 mSv (0.5 rem) set by the NRC. (1). If this ruling is revoked, such patients will have to be housed in one of our three shielded rooms in the hospital. This means some patients will not be treated in a timely manner, the health-care staff will tend to more I-131 patients, and the cost of health care would increase. The Brigham and Women's Hospital supports continuing the patient release criteria in its present state.

1. Grigsby PW, Siegel BA, Baker S, Eichling JO. Radiation exposure from outpatient radioactive iodine (131I) therapy for thyroid carcinoma. JAMA 2000;283:2272-74.

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