



JAN 25 1994

National Institutes of Health
Bethesda, Maryland 20892
Building : 21
Room : 112
(301) 496- 2254U.S. Nuclear Regulatory Commission
Nuclear Materials Safety Section B
Division of Radiation Safety and Safeguards
Region I
475 Allendale Road
King of Prussia, PA 19406

Ref: License #19-00296-17

Dear Sir or Madam:

The purpose of this letter is to inform you of a recurring problem with a Cs-137 self-contained irradiator located at the National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland, 20892, Building 10, Room B2B56. While we feel that this does not represent a substantial safety hazard and therefore is not reportable under 10 CFR Part 21.21(c), our current uncertainty regarding the Commission's position on such matters compels us to report this incident. The irradiator in question is a Nordion Gammacell 40 Irradiator (previously AECL) containing AECL Model C-161, Type 8 or C440 sealed source and is identified as item 7B in our license.

On Friday, January 21, 1994, a researcher finished using the irradiator and went to retrieve her sample when the irradiator door failed to open. The researcher attempted to retrieve her sample, but was unable to operate the device such that the sources would move into the irradiate position and then retract. The researcher immediately notified the Radiation Safety Branch and staff reported to the irradiator. Apparently, the top source rod had not completely retracted and consequently, the door could not be opened. The mechanical and electrical interlocks worked according to their design. The Area Health Physicist opened the side panel and pushed the source rod slightly with a metal rod so that the source retracted into the shielded position. With the unit on, the "low air" light was activated and the pump could not generate an air pressure greater than 20 psi. Consequently, there was not enough air pressure to drive the source rods into the on/off positions.

A similar problem occurred with this irradiator on January 4, 1994 and the unit was serviced. A letter dated January 7, 1994 was mailed to your office detailing the incident. After the irradiator was repaired, the Area Health Physicist verified that the unit was in good working condition. However, the problem has recurred. Consequently, the irradiator was again taken out of service and the key confiscated by the Radiation Safety Branch. The irradiator was

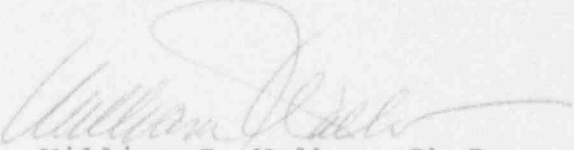
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posted with signs by the staff informing potential users that the irradiator can not be used until further notice. Personnel are currently notifying the manufacturer and making arrangements to again repair the air pump.

Radiation exposures around the device indicated that with the one source rod in a semi-retracted position, the highest reading obtained was on the front panel of the irradiator door measuring 2.2 mrem/hr at the surface using a calibrated ion chamber. At no time did the irradiator pose a radiation hazard to individuals in nearby areas.

If you have any questions or need any further information regarding this matter, please contact me at (301)496-2254.



William J. Walker, Ph.D.
Radiation Safety Officer

cc: Dr. Jacob Robbins, Chairman, NIH Radiation Safety Committee
Mr. Ted W. Fowler, Deputy Radiation Safety Officer, NIH
Dr. Robert McKinney, Director, Division of Safety