



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

October 29, 2010

Docket No. 03001239

License No. 06-00253-04

Jamie Roche, M.D.  
Vice President for Safety and Quality  
Hartford Hospital  
80 Seymour Street  
Hartford, CT 06102

**SUBJECT: NRC INSPECTION REPORT NO. 03001239/2010001, HARTFORD HOSPITAL, HARTFORD, CONNECTICUT AND NOTICE OF VIOLATION**

Dear Dr. Roche:

On June 24 through 25 and August 10 through 12, 2010, Sandra Gabriel of this office conducted a safety inspection at Hartford Hospital in Hartford, Connecticut. Safety inspections also took place at five additional addresses of use listed on the above license in Hartford and Glastonbury, Connecticut. The inspection was an examination of your licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions. In addition to the on-site reviews, the inspection also consisted of in-office reviews of: (1) additional information Hartford Hospital provided in correspondence dated August 18 and October 26, 2010; and (2) the findings of a medical consultant retained by the NRC to review a brachytherapy procedure that Hartford Hospital performed in May 2010, as documented in the consultant's report dated August 16, 2010. The results of the inspection were discussed with Donna Handley and other members of your organization at the conclusion of the inspection on October 27, 2010.

Based on the results of this inspection, one violation of NRC requirements was identified. Specifically, Hartford Hospital did not determine timer accuracy and linearity over the typical range of use after each high dose rate remote afterloader (HDR) source replacement as required by 10 CFR 35.633(b). A Notice of Violation (Notice) is enclosed that categorizes this violation as a Severity Level IV. This violation is being cited in the Notice because it was identified by the NRC and because this issue was identified previously during an NRC inspection in 2008 (NRC Inspection Report No. 03001239/2008002). The corrective actions implemented in 2008 were not comprehensive in that they did not address all aspects of the regulation.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence is already adequately addressed on the docket and in your correspondence dated August 18 and October 26, 2010. Your corrective actions included repeating HDR timer accuracy and linearity testing over the typical range of use and updating your procedures to ensure that future tests are performed over the required range of times after each source replacement. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

J. Roche

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Current NRC regulations are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material**; then **Regulations, Guidance, and Communications Page**. The current Enforcement Policy is included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **About NRC; How We Regulate; Enforcement**; then **Enforcement Policy**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 7:00 a.m. to 6:30 p.m. EST, Monday through Friday (except Federal holidays).

Please contact Sandra Gabriel at 610-337-5182 if you have any questions regarding this matter.

Sincerely,

***Original signed by Marc Ferdas***

Marc S. Ferdas, Chief  
Medical Branch  
Division of Nuclear Materials Safety

Enclosure:  
Notice of Violation

cc:  
Peter J. Mas, Radiation Safety Officer  
State of Connecticut

J. Roche

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Marc S. Ferdas, Chief  
Medical Branch  
Division of Nuclear Materials Safety

Enclosure:  
Notice of Violation

cc:  
Peter J. Mas, Radiation Safety Officer  
State of Connecticut

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D. J. Holody, RI

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**SUNSI Review Complete: SGabriel**

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NAME	SGabriel SG		MFerdas MSF			
DATE	10/29/10		10/29/10			

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Notice of Violation  
Hartford Hospital

**NOTICE OF VIOLATION**

Hartford Hospital  
Hartford, CT

Docket No. 03001239  
License No. 06-00253-04

During an NRC inspection conducted on June 24 through 25 and August 10 through 12, 2010, as well as subsequent in-office reviews, and for which an exit meeting was conducted on October 27, 2010, one violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 35.633(a) requires, in part, that a licensee authorized to use a remote afterloader unit for medical use shall perform full calibration measurements following replacement of the source. 10 CFR 35.633(b)(5) requires remote afterloader full calibration measurements to include a determination of timer accuracy and linearity over the typical range of use.

Contrary to the above, on August 26 and November 26, 2008; February 23, May 27, August 21, and November 17, 2009; February 17 and May 14, 2010, Hartford Hospital performed high dose rate remote afterloader (HDR) full calibration measurements that did not include a determination of timer accuracy and linearity over the typical range of use. Specifically, after source replacement, Hartford Hospital did not determine timer linearity over the typical range of use.

This is a Severity Level IV violation (Section 6.3).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance will be achieved is already adequately addressed on the docket in NRC Inspection Report No. 02001239/2010001, and in written information provided by Hartford Hospital on August 18 and October 26, 2010. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, any response which contests an enforcement action shall be submitted under oath or affirmation.

Your response will be placed in the NRC Public Document Room (PDR) and on the NRC Web site. To the extent possible, it should, therefore, not include any personal privacy, proprietary, or safeguards information so that it can be made publically available without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support

Notice of Violation  
Hartford Hospital

your request for withholding the information from the public.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated This 29th day of October 2010