



STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



JENNIFER M. GRANHOLM  
GOVERNOR

STEVEN E. CHESTER  
DIRECTOR

PR 20,30,31,32,33,35,50,60,61,62,72,110,150,170 and 171  
(71FR42952) September 11, 2006

DOCKETED  
USNRC

September 18, 2006 (3:43pm)

Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
ATTN: Rulemakings and Adjudications Staff

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

Dear Sir or Madam:

SUBJECT: RIN 3150-AH84

This letter is in response to a request for comments published in the *Federal Register* (FR), Volume 71, Number 145, on July 28, 2006, concerning "Requirements for Expanded Definition of Byproduct Material: Proposed Rule."

Summary

Overall, we support the proposed rules to regulate discrete sources of radium-226, material made radioactive by use of a particle accelerator, and discrete sources of naturally occurring radioactive material.

We strongly recommend that the U.S. Nuclear Regulatory Commission (U.S. NRC) undertake a systematic study to assess the potential individual and collective (population) radiation doses associated with the use, possession, transfer, and disposal of regulated radium and antiquities. We recommend that this study be similar to NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials." The U.S. NRC can then review and examine the radiological impact of these items and determine what regulatory actions are appropriate for ensuring public health and safety. This approach will allow newly-regulated stakeholders to be involved in the data collection phase of the study, become aware of the new interim general license requirements, feel a part of the process, and have a better sense for the scientific basis for regulatory decisions.

We also recommend that the U.S. NRC review NUREG/CP-0001, "Radioactivity in Consumer Products." This NUREG, dated August, 1978, contains information on radium in watches, smoke detectors, lightning rods, and other consumer products.

Specific Comments

In Section II.G. of the federal register notice, the U.S. NRC also requested additional information or comments on several topics.

Template = SECY-067

SECY-02

1. *Technical information that may be available to support an exemption for old discrete radium-226 sources.*

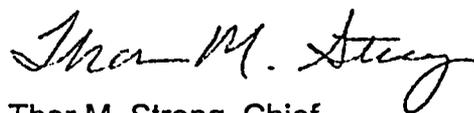
We have a copy of the "Radioactive Material Reference Manual for Regulatory Agencies" issued by the U.S. Food and Drug Administration in the 1960s through the 1980s. This manual is similar to the U.S. NRC Sealed Source and Device Registry. The manual contains information on devices and sources containing radium-226, lead-210, cobalt-57, and other accelerator-produced radioactive material. If you would like a copy, please let us know; we will forward the manual to you for copying and return.

2. *The appropriateness of the number of timepieces containing radium-226 (proposed as ten per year) for an exemption to allow repairing and other comments concerning how active the repair of timepieces containing radium-226 may be, the safety significance of this proposed exemption, alternatives to potential regulations or justification for continuing the exemption in this areas.*

We recommend that facilities disassembling or repairing timepieces containing radium be generally licensed until a systematic study to assess the potential individual and collective (population) radiation doses associated with this industry is completed. Enclosed is a notice issued on December 19, 1962 by the U.S. Department of Health, Education, and Welfare (DHEW) indicating that the New York City Health Department surveyed radium dial pocket watches. The survey "found that all the new radium dial pocket watches emitted more radiation than permitted - - between 5 to 20 millirads per hour." We recommend that the archives of federal agencies be investigated for additional information that may exist on radium issues.

Thank you for the opportunity to comment. If we can be of additional assistance, please contact me.

Sincerely,



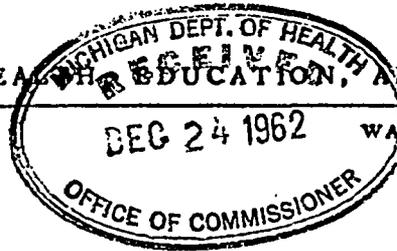
Thor M. Strong, Chief  
Radiological Protection and Medical  
Waste Section  
Waste and Hazardous Materials Division  
517-241-1252

TMS:RS:JK  
Enclosure



BUREAU OF STATE SERVICES

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE



1003  
Lit File

WASHINGTON 25, D. C.

Refer to: DRH:SAB

December 19, 1962

MEMORANDUM

TO: All Regional Radiological Health Consultants  
All State and Territorial Health Officers  
All NACOR Members

FROM: Deputy Chief  
Division of Radiological Health

SUBJECT: Revised\* Report on New York City Action Re Radium Dial  
Pocket Watches

Public attention has been drawn recently to news stories announcing restrictions placed on the sale of radium dial pocket watches in New York City (see attached release). This story, which first appeared November 26th, resulted in several inquiries to the Division of Radiological Health from DRH Consultants and others. The State Assistance Branch, DRH, then conducted an administrative review to ascertain the facts and background of this action.

First, it should be pointed out that restrictions on the sale and use of radium containing devices in New York City are not new. Since March 19, 1958, the New York City Health Code has prohibited the storage, manufacture, repair, handling or use of timepieces, instruments, novelties or devices in such a way that may expose persons to radiation dose-rates in excess of limitations set by the National Committee of Radiation Protection.

Additionally, it was erroneously reported that the sale of such pocket watches is "banned." It should be noted that permits can be secured for the use of watches in special cases on the basis of demonstrated need. Individuals possessing watches which will expose the user to a radiation dose in excess of the recommended level would require a permit from the City Health Department. Generally, radium dial wrist watches do not require a permit since they are below the limits set forth in the NYC Code.

\*This revised report differs in several particulars from the preliminary report on this subject sent you December 6. The revised report thus replaces the earlier, preliminary version.

The news report was based on a recent survey and subsequent action taken by the New York City Health Department's Office of Radiation Control. The survey conducted by inspectors from that office turned up a large number of stores selling radium dial pocket watches which emitted excessive radiation. As a result, Hanson Blatz, Director of the Office of Radiation Control, sent a notice to manufacturers and distributors advising of the requirements of the NYC Health Code.

After discovery of the violations, Mr. Blatz prepared to take measures eliminating the problem. His first step was to consult with legal authorities. They advised him that the City Health Code, which had been revised when the State signed an agreement October 15, 1962, taking over some of the AEC's regulatory authority, did not define exposure limits. The City Code of October 15th stated that unsealed sources of radium may not exceed 1/10 microcurie; sealed sources may not exceed 1 microcurie. Lawyers, however, quickly pointed out that manufacturers and others might argue with some justification that watches are a sealed source. The lawyers therefore recommended that an amendment be written to the New York City Health Code, and such an amendment was passed on November 26th (see attached copy).

The new amendment to the City Health Code simply states definite dose limits of radium dial watches of all kinds according to NCRP guides. These limits were interpreted to be 1/10 of a millirad per hour through the face of a pocket watch and 1 millirad per hour through the back of a wrist watch. There was therefore no need to define sealed or unsealed sources.

At a meeting on December 3rd, Mr. Blatz briefed Division of Radiological Health officials on the events leading up to the New York City Health Department action. There had been, he said, routine inspection of watches since the enactment of the law in March 1959. During three years of inspection, he determined dose-rates on watches by the use of photographic film. As a result, he found that all radium dial pocket watches greatly exceeded the permitted limits. Consequently, he now relies upon inspection using properly calibrated G-M detectors.

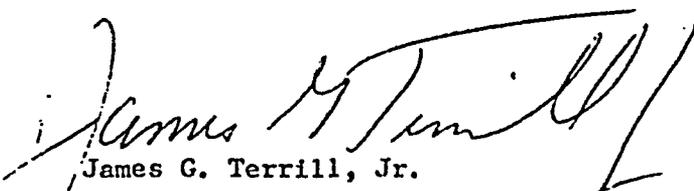
The background which led to New York City's recent revision of their Code is of interest. It was recently called to Mr. Blatz's attention that a certain mail order house was selling radium dial pocket watches which emitted radiation in excess of limits. When investigated, the manager of the mail order house complained that there were many other sales outlets for such watches in the city. Whereupon, inspectors from the Office of Radiation Control visited 75 stores and found more than half were selling radium dial pocket watches. As before, it was found that all the new

radium dial pocket watches emitted more radiation than permitted--between 5 to 20 millirads per hour. In this range of dose-rates, Mr. Blatz estimated, a pocket watch worn 100 hours a week, 50 weeks a year, would produce an annual dose of approximately 75 rad to a part of the body. He calculated this to be approximately 150 times the amount (0.5 rad) allowed for the population as a whole for one year.

Using the maximum dose of 0.5 rems per year, the amount of exposure (whole body) allowed for the general population, and assuming an individual wears it for 100 hours per week, for 50 weeks, Mr. Blatz derived the maximum dose-rate of 1/10 of a millirad per hour through the face of a pocket watch. Using similar calculations, a wrist watch, giving off 1 millirad per hour, worn 150 hours per week, 50 weeks per year, would deliver a dose within the limits set by the NCRP--7.5 rems for hands and forearms per year for the general population. Since it was found that most radium dial wrist watches resulted in a dose-rate less than 1 millirad per hour, a permit would not be required for their possession and use.

The Division of Radiological Health has sent one of its radiation specialists to New York City to assist and observe procedures in this and other related control problems. If new laboratory measurements of exposure by watch dials and other such sources are indicated, these will be made.

Upon inquiries from members of the press, the Division has reiterated its position that State and city health departments have primary responsibility for control of radiation hazards. The action taken by New York City falls within this area of responsibility and reflects an attempt of a government agency to reduce unnecessary radiation.

  
James G. Terrill, Jr.

Enclosures (3)

Notice to Manufacturers - Nov. 23, 1962  
New York City News Release - Nov. 26, 1962  
Board of Health Resolution - Nov. 27, 1962

**From:** Carol Gallagher  
**To:** SECY  
**Date:** Mon, Sep 18, 2006 3:00 PM  
**Subject:** Comment letter on Requirements for Expanded Definition of Byproduct Material

Attached for docketing is a comment letter on the above noted proposed rule from Thor M. Strong, Department of Environmental Quality, State of Michigan, that I received via the rulemaking website on 9/15/06.

Carol

**Mail Envelope Properties (450EECD1.D21 : 5 : 35764)**

**Subject:** Comment letter on Requirements for Expanded Definition of Byproduct Material  
**Creation Date** Mon, Sep 18, 2006 3:00 PM  
**From:** Carol Gallagher  
**Created By:** CAG@nrc.gov

**Recipients**

nrc.gov  
 TWGWPO02.HQGWDO01  
 SECY (SECY)

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**Route**

nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	512	Monday, September 18, 2006 3:00 PM
TEXT.htm	491	
1646-0026.pdf	586935	Monday, September 18, 2006 2:57 PM

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**ReplyRequested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard

**Junk Mail Handling Evaluation Results**

Message is not eligible for Junk Mail handling  
 Message is from an internal sender

**Junk Mail settings when this message was delivered**

Junk Mail handling disabled by User  
 Junk Mail handling disabled by Administrator  
 Junk List is not enabled  
 Junk Mail using personal address books is not enabled  
 Block List is not enabled