



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

NOV 19 1973

J. C. Malero, Chief, Materials Branch, Directorate of Licensing

U. S. RADIUM CORPORATION, BLOOMSBURG, PENNSYLVANIA - RELEASE OF  
H<sup>3</sup> TO UNRESTRICTED AREA (LICENSE NOS. 37-30-7 AND -8)

Enclosed is a transmittal from Region I to H. D. Thornburg, dated September 10, 1973, requesting that Licensing reevaluate License Condition No. 15 with respect to the licensee's restricted area definition and the use of diffusion calculations to show compliance with 20.106 as permitted by the license. The licensee performed one set of physical measurements in August 1969 of tritium concentrations in unrestricted areas. This set of physical measurements showed concentrations of tritium considerably higher than the diffusion calculations, indicating possible noncompliance with 20.106. RO believes that periodic physical measurements to verify the diffusion calculations should be performed by the licensee, and that such a requirement should be incorporated into the license at license renewal time.

We are also enclosing for your information a copy of the most recent enforcement letter to the licensee from Region I and the licensee's response. Note that in Item I of the licensee's response, they state that site boundary surveys for radioactivity will be conducted, but without indicating the extent or frequency of such surveys.

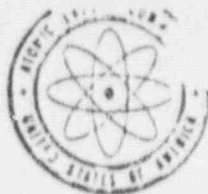
*GWR*

Gen W. Roy, Chief  
Radiological Protection Branch  
Directorate of Regulatory Operations

Enclosures:

1. Transmittal from RO:I dated 9-10-73
2. Enforcement letter to licensee dated 9-10-73
3. Licensee's response to the enforcement letter dated 10-31-73

cc: P. R. Nelson, RO:I  
H. D. Thornburg (Ref: FO #164)



ATOMIC ENERGY COMMISSION  
DIRECTORATE OF REGULATORY OPERATIONS  
REGION I

870 BROAD STREET  
NEWARK, NEW JERSEY 07102

631 Park Avenue  
King of Prussia, Pennsylvania 19406

SEP 10 1973

Harold D. Thornburg, Chief Field Support and Enforcement Branch

US Radium Corporation  
Bloomsburg, Pennsylvania 17815  
RO Inspection Report Nos. 03005982, 03005981

The subject inspection reports are transmitted for your action.

In 1969, the licensee submitted a letter that stated the total plant site will be used as a restricted area for purposes of calculating atmospheric dispersion. This letter was incorporated into the license as part of Condition 15. The inspector who conducted the February, 1973, inspection and the inspector and the accompanying senior who conducted the August, 1973, inspection all believe that the licensee's tritium releases to unrestricted areas, as allowed by License Condition 15, should be reevaluated.

The inspectors emphasize the following:

1. The licensee's plant is located in a suburban area with the nearest house about 20 yards from the plant boundary. The licensee's plant boundary is not fenced or restricted.
2. The licensee uses calculations to verify compliance with 20.106. One set of physical measurements were made in August, 1969, to verify these calculations. These measurements showed a serious discrepancy between the measured and calculated values that indicated possible noncompliance with 20.106. No additional measurements have been made.
3. The licensee is not taking all practical steps to keep his effluents as low as practical as per 20.1.

Region I recommends that Licensing critically reevaluates License Condition 15 when the license expires in August, 1974. The reevaluation should consider either removing the approval for using the total plant site as a restricted area for the purposes of calculation atmospheric dispersion, or requiring periodic physical measurements to verify these calculations.

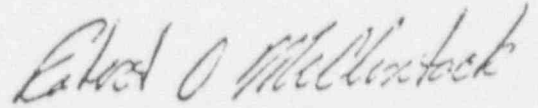
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REGION I  
NEWARK, NJ

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Distribution of the reports and State representative information. be made by this office to PDR, NSIC review by the licensee for proprietary information.

A handwritten signature in cursive script, appearing to read "Paul R. Nelson".

Paul R. Nelson, Chief  
Radiological & Environmental  
Protection Branch

631 Park Avenue  
King of Prussia, Pennsylvania 19406

SEP 10 1973

United States Radium Corporation  
Attention: Mr. F. Smith  
Vice-President

Docket Nos. 30-5901  
30-5902

4150 Old Berwick Road  
Bloomsburg, Pennsylvania 17815

Gentlemen:

This refers to the inspection conducted by Mr. Allen of this office on August 22 and 23, 1973, of activities authorized by AEC License Nos. 37-00030-07 and 37-00030-08 and to the discussions of our findings held by Mr. Allen with Mr. McGraw of your staff at the conclusion of the inspection, and to a subsequent telephone discussion between Mr. Allen and Mr. Smith on August 24, 1973.

The inspection was an examination of activities conducted under your licenses as they relate to radiation safety and to compliance with the Commission's rules and regulations and the conditions of your licenses. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

In addition, our inspector examined the corrective action regarding item 2 identified in our letter to you dated March 27, 1973. With regard to this item, it is recognized that implementation of yearly orientation and training has not been accomplished. It is our understanding that the required training will be completed by September 30, 1973 and will continue on an annual basis. Your actions with regard to this matter will be examined during subsequent inspections.

During this inspection, it was found that one of your activities appeared to be in violation of an AEC requirement. The item and a reference to the pertinent requirement is listed in the enclosure to this letter. This letter constitutes a notice sent to you pursuant to the provisions of Section 2.201 of the AEC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you

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State of Pennsylvania

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R-31-73

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to submit to this office within 20 days of your receipt of this notice a written statement of explanation in reply, including: (1) corrective steps which have been or will be taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved.

In accordance with Section 2.790 of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection reports will be placed in the AEC's Public Document Room. If these reports contain any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the reports will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

Paul E. Nelson, Chief  
Radiological and Environmental  
Protection Branch

Enclosures:

1. Description of Violation
2. RO Inspection Report 03005981/73 02
3. RO Inspection Report 03005982/73 02

cc: RO Chief, Field Support & Enforcement Branch, HQ  
RO:HQ (4)  
L:D/D for Fuels & Materials  
DR Central Files  
RO Files  
Central Mail & Files  
PDR  
NSIC  
State of Pennsylvania

4150 OLD BERWICK ROAD / BLOOMSBURG, PENNSYLVANIA 17815 / (717) 784-3510

October 31, 1973

United States Atomic Energy Commission  
Directorate of Regulatory Operations  
Region I  
631 Park Avenue  
King of Prussia, Penna. 19406

Attention: Mr. Paul Nelson

Reference: Docket Nos. 30-5901  
30-5902

Gentlemen:

In regards to the violations outlined in your letter of September 10, 1973, the following action has been, or is being taken:

- 1) 10CFR 20.201 (b) Surveys  
Material and equipment necessary to conduct site boundary surveys for airborne radioactivity is being ordered. Start-up of the sampling program is scheduled November 30, 1973.
- 2) License condition 15 - Training in Emergency Procedures  
Training in emergency exit procedures has been held. In addition to these procedures, training included a review of requirements regarding handling, labeling, storing, etc. of radioactive material. Also included in the training session were revised entry procedures and signs. The object of this revision was to tighten security restrictions in the Nuclear production areas. The individual employee's responsibility in this regard was emphasized.

We hope that these corrective measures meet with your approval.

Respectfully yours,

UNITED STATES RADIUM CORPORATION

*David McGraw*

J. David McGraw  
Radiation Safety Officer

JDM:cbs

cc: F. D. Smith  
R. C. Sorensen

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NOV 19 1973

J. C. Malero, Chief, Materials Branch, Directorate of Licensing

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Original signed by  
Gen V. Roy

Gen V. Roy, Chief  
Radiological Protection Branch  
Directorate of Regulatory Operations

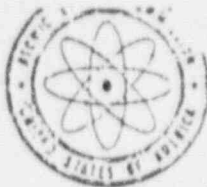
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OFFICE ▶	RO:RPB	RO				
SURNAME ▶	JRM:ef	GWR				
DATE ▶	11/19/73	11/19				

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DIRECTORATE OF REGULATORY OPERATIONS  
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*Paul R. Nelson*

Paul R. Nelson, Chief  
Radiological & Environmental  
Protection Branch

631 Park Avenue  
King of Prussia, Pennsylvania 19406

SEP 10 1973

United States Radium Corporation Docket Nos. 30-5901  
Attention: Mr. F. Smith 30-5902  
Vice-President  
4150 Old Berwick Road  
Bloomsburg, Pennsylvania 17815

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Radiological and Environmental  
Protection Branch

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L:D/D for Fuels & Materials  
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UNITED STATES RADIUM CORPORATION

*J. David McGraw*  
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Radiation Safety Officer

JDM:cbs

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