



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 5, 2017

[

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SUBJECT: INDIANA RADIUM INSTITUTE-3—RESULTS AND CONCLUSIONS OF THE  
U.S. NUCLEAR REGULATORY COMMISSION'S INITIAL SITE VISIT

Dear [ ]

On October 6, 2016,<sup>1</sup> I sent a letter to the previous owner of your property at [ ]. The purpose of that letter was to notify the previous owner that your property is a site where radium-226 (Ra-226) was previously used. Specifically, a building that was previously on your property was used as a sanitarium, wherein radium was used to treat patients. Ra-226 is a radioactive isotope that, in certain quantities, may pose a risk to public health and safety. Ra-226 is regulated by the U.S. Nuclear Regulatory Commission (NRC). If you are not the current owner of the property, please let us know whom we should contact.

An additional purpose of that letter was to request that the NRC be allowed to access your property to perform radiological surveys and to collect samples to determine whether there is any residual contamination resulting from this historical use of radium on your property. A copy of the October 6, 2016, letter is enclosed herein.

Following issuance of the October 6, 2016, letter, the NRC staff contacted the previous owner to request access to your property. The previous owner granted the NRC staff access to the outside areas of your property, but did not grant access to its interior. On December 13, 2016, the NRC staff performed the initial site visit to your property at [ ]. I am writing to provide you with the results of this visit.

The purposes of the initial site visit were to: 1) determine if there are health and safety concerns to current property occupants or site visitors; and 2) identify the locations with the potential for contamination and gather information for a scoping survey plan, should it be needed.

As described above and in further detail in the attached letter, a building previously located on your property was associated with the former Indiana Radium Institute and was torn down as part of a redevelopment project. Your property is one of five townhomes that is a portion of the historical site. Based on the history of the site and its redevelopment, NRC staff considered the likelihood of discrete sources of radium-226 (Ra-226) being located within the existing structures to be negligible. Therefore, the initial site visit focused on the accessible areas of your property

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession No. ML16277A224.

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-2-

to identify any discrete Ra-226 sources, which may be indicative of additional Ra-226 in subsurface soil.

As discussed within the enclosed report, NRC staff and staff from the Oak Ridge Institute for Science and Education performed radiological surveys consisting of gamma radiation scans and exposure rate measurements. Surveys were conducted on accessible outside areas of your property. Surveys covered approximately 60 percent of the area within the boundary that includes the five townhomes located at the historical site. With the redevelopment history of the site, it is assumed that the area surveyed in the surface scans is representative of the currently inaccessible subsurface soil covered by the footprint of your property. The NRC did not survey under the current driveway or building foundations.

NRC staff concludes, based on radiological conditions observed during the initial site visit and a review of the site history, that: 1) there is no indication of discrete sources of Ra-226 on the portions of your property that were evaluated; and 2) a follow-up scoping survey is not required as it would be unlikely to yield additional information. Furthermore, while the interior of your townhome was not surveyed, portions of the interior of three of the other five townhomes were surveyed, and no discrete sources of Ra-226 were identified.

Given these conclusions, no further actions are needed from you at this time. You should be aware that the NRC will be performing an initial site visit at another property associated with the former Indiana Radium Institute. This property is located near yours and consists of the abutment between your property and [ ]. This initial site visit may yield additional information relevant to your property. Should that occur, you will be contacted.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," upon removal of the bracketed information, a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions concerning this letter, please contact Mr. Theodore Smith, Acting Chief, Materials Decommissioning Branch, Division of Decommissioning, Uranium Recovery and Waste Programs, Office of Nuclear Materials Safety and Safeguards, at (301) 415-6721, or Mr. Matthew Meyer, Project Manager, at (301) 415-6198.

Sincerely,  
*/RA/*

John R. Tappert, Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 03038983

Enclosures:

1. Site Status Report for Indiana Radium Institute-3 [ ]
2. October 6, 2016, Letter – Indiana Radium Institute-3 – Request for Initial Site Visit and to Perform Radiological Surveys

REGISTERED LETTER – RETURN RECEIPT REQUESTED

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Enclosure

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION:  
SITE STATUS REPORT FOR THE INDIANA RADIUM INSTITUTE AT  
[ ]

May 5, 2017

EXECUTIVE SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) requested that the Oak Ridge Institute for Science and Education (ORISE) perform a radiation survey of the property at [

] This property covers part of the footprint once occupied by the Indiana Radium Institute, which used radium sources to treat cancers and other skin diseases into the early 1920s. The original building was torn down, and the land has been redeveloped. The objective of this survey was to locate possible discrete sources of radium, if any, that would be associated with the Indiana Radium Institute's operations.

ORISE performed the radiation survey on December 13, 2016, and did not identify elevated levels of radiation indicative of discrete sources of radium. Because no elevated levels of radiation were identified, ORISE concludes that discrete sources of radium are likely not present in subsurface soils. Based on these results, it is recommended that the NRC not pursue additional action at the [ ] property. The inspection team did not access interior spaces.

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SITE STATUS REPORT

Property: Former Indiana Radium Institute  
[

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Docket Number: 03038983

Current Property Name: Private residential

Current Property Owner: Private residential

Inspection Dates: December 13, 2016

Participants: Mike Kunowski/ NRC, Harral Logaras/ NRC, Maureen Conley/ NRC, Amber Kent/ Indiana State Department of Homeland Security, supported by Teresa Brown/Oak Ridge Associated Universities (ORAU)

## 1.0 INTRODUCTION

The Energy Policy Act of 2005 amended section 11e.(3) of the Atomic Energy Act of 1954 to place discrete sources of radium-226 (Ra-226) under U.S. Nuclear Regulatory Commission (NRC) regulatory authority as byproduct material. The NRC is evaluating properties where review of historical information has identified Ra-226 use. The property at [ ] was identified as a portion of the Indiana Radium Institute, a medical facility that operated from 1917 to 1922 (Oak Ridge National Laboratory (ORNL) 2015). The objectives of the initial site visit were to determine if discrete sources of Ra-226 and/or distributed Ra-226 contamination are present, to identify the areas of highest contamination, to determine if there are any current health and safety concerns, and to determine if a scoping survey is needed. Surveys were performed as described within NRC's procedure, Temporary Instruction (TI) 2800/043, "Inspection of Facilities Potentially Contaminated with Discrete Radium-226 Sources" (NRC 2016).

Data collected during the December 13, 2016, site visit, which includes gamma radiation scans and exposure rate measurements, are used to plan future actions that may be needed to reduce Ra-226 exposure to current or future site occupants to levels that do not exceed the applicable regulatory requirement. It is important to note that destructive testing is not generally performed as described within TI 2800/043. The inspection team was not granted access to interior spaces.

## 2.0 PROPERTY DESCRIPTION AND INITIAL SITE VISIT CONSIDERATIONS

### 2.1 Property Description and History

The site summary included in the "Historical Non-Military Radium Sites Research Effort Addendum" report (ORNL 2015) provides known site details about the type, form, history, potential locations and other information related to discrete sources of Ra-226 used at the site. The Indiana Radium Institute, a medical facility that performed radium therapy, was once located at [ ] in Indianapolis, Indiana (see Figure 1). The northern portion of this area is now located near the [ ] while the southern portion has been re-developed into a single building containing five townhomes on [ ].

Radium Program – Indiana Radium Institute 1 5289-SR-14-1

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The scope of this report is limited to a single townhome in the middle section of that building. Directly on either side of [ ] are grassy areas sloping up to the interstate with residential and shopping areas further down the road.

The exact amount of radium that was used at the Indiana Radium Institute is unknown. According to advertisements, the Indiana Radium Institute performed “accurate and scientific application of radium,” provided “radium for renting purposes,” and used radium in “solution for emanation” (ORNL 2015).

[

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Figure 1. Approximate Location of the Indiana Radium Institute in Indianapolis  
(Google Earth, 2014)

## 2.2 Initial Site Visit Considerations

Based on the history of the property and its redevelopment, NRC staff considers the likelihood of discrete sources of Ra-226 existing in current property structures to be negligible. Rather, were discrete sources of Ra-226 present, they would likely be in subsurface soils. However, it is likely that existing surface soils were transported off site and backfill materials were brought in during redevelopment activities. As a result, potential mixing between the backfill and remaining subsurface soils would likely further dilute any remaining discrete subsurface sources of Ra-226. The structures, pavement, and other obstructions on the property limited the area in which soil surveys could be performed. Therefore, this initial site visit focused on identifying discrete sources of Ra-226 associated with the areas surrounding the townhomes. Surveys covered approximately 60 percent of the area within the property boundary that includes the five townhomes located at the historical site.

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3.0 SITE OBSERVATIONS AND FINDINGS

3.1 Summary of Activities

The inspection team conducted an initial site visit with radiological surveys at the [ ] property on December 13, 2016. A pre-inspection meeting was held with Mike Kunowski, Herral Logaras, and Maureen Conley from NRC, Amber Kent from the State of Indiana, and Teresa Brown from ORAU. Participants discussed the inspection team’s intention to perform general area surveys outside the [ ] property. The current owners did not give consent to survey the inside of the townhome, but did allow the inspection team to survey outside areas.

Radiological surveys consisted of gamma radiation scans using a Ludlum model 44-10 2-inch by 2-inch sodium iodide detector (2×2) connected to a Ludlum model 2221 ratemeter/scaler, and exposure rate measurements using a Ludlum model 192 ratemeter. The 2×2 sodium iodide detector can respond to gamma-emitting radionuclides located in the top 6 to 12 inches of soil. A Ludlum model 44-142 plastic scintillator was available for direct surface activity measurements. Surface scans outside the townhome focused on the garden, deck, and driveway areas. Table 1 presents the specific instruments used during the initial site visit.

<b>Radiation Type (units)</b>	<b>Detector Type</b>	<b>Detector (Number)</b>	<b>Ratemeter (Number)</b>
Alpha-plus-beta (cpm)	Plastic Scintillator	44-142 (690)	2221 (602)
Gross gamma (cpm)	Sodium Iodide	44-10 (1151)	2221 (693)
Gross gamma (µR/h)	Exposure Rate Meter	192 (1128)	N/A

N/A = not applicable; ratemeter is not required

Number = equipment tracking number

cpm = counts per minute

µR/h = microRoentgen per hour

3.2 Summary of Results

Figure 2 presents a summary of results from the initial site visit. Inspectors identified no anomalous gamma radiation measurements and did not identify any discrete Ra-226 materials in the surveyed areas at the [ ] property. In general, the sodium iodide detector background responses ranged from about 4,500 to 5,200 counts per minute (cpm), depending on proximity to brick buildings, sidewalks, and grassy areas, while exposure rate responses were around 4 microRoentgens per hour (µR/h<sup>1</sup>). These results are expected between naturally occurring radioactive materials (NORM) in this configuration.

In addition, no records were identified that suggest discrete sources of radium exist after the property’s redevelopment.

<sup>1</sup> NOTE: Roentgen (R) is a unit of exposure (energy absorbed in air), whereas a Rem is a unit of dose delivered to a person (resulting from the radiation energy absorbed in that person). While Roentgen and Rem are related, these are different units. Because they are similar for gamma ray energies from Ra-226, NRC makes the simplifying assumption in this case that these units are equivalent (1 Roentgen = 1 Rem).

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<b>SITE:</b> Indiana Radium Institute	<b>AREA:</b> [ ]	<b>DATE:</b> 12/13/2016	<b>TIME:</b> 14:00 - 18:30
<b>SURVEYOR(S):</b> T. Brown		<b>PURPOSE:</b> Site Visit	

<b>TYPE</b>	<b>INSTRUMENT</b>	<b>DETECTOR</b>	<b>BACKGROUND</b>
Gamma	2221 #693	44-10 #1151	4.8 – 5.2 kcpm <sup>a</sup>
Exp. Rate	192 #1128	NA	4 µR/h <sup>a</sup>

<sup>a</sup>Background varied depending on NORM in the area.

[

]

Figure 2. Survey Results of [ ] Property

3.3 Summary of Dose Assessment Results

Because no radiation levels were detected above background and no discrete sources of radium were encountered, a dose attributed to discrete radium sources could not be calculated.

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4.0 OBSERVATIONS AND RECOMMENDATIONS

There was no indication from the areas surveyed that the [ ] property, occupying a portion of the former Indiana Radium Institute, contains discrete sources of Ra-226 as determined by the following observations:

- Gamma radiation levels were consistent with background.
- The absence of observable gamma radiation anomalies is indicative that there are no discrete sources of Ra-226 present.
- There was no historical evidence that discrete sources of Ra-226 are present following the Institute's demolition and the property's subsequent redevelopment.
- Risk of potential contamination on the site is low and, if present, would most likely be found at a significant depth in the subsurface soil.

Therefore, the recommendation to the NRC staff is that a more detailed scoping survey is not necessary at this time, and NRC staff should not pursue additional action at the [ ] property.

5.0 REFERENCES

NRC 2016. *Inspection of Facilities Potentially Contaminated with Discrete Radium-226 Sources*, Temporary Instruction 2800/043, U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Washington, D.C., October. (Agencywide Documents Access and Management System [ADAMS] Accession No. ML16035A053).

ORNL 2015. *Historical Non-Military Radium Sites Research Effort Addendum*, "Indiana Radium Institute: Site Summary," Pages 68-72, Oak Ridge National Laboratory, Oak Ridge, Tennessee, November 24 (ADAMS Accession No. ML16291A488).



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 6, 2016

[

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SUBJECT: INDIANA RADIUM INSTITUTE-3 – REQUEST FOR INITIAL SITE VISIT AND TO PERFORM RADIOLOGICAL SURVEYS

Dear [ ]

I am writing to inform you that our records indicate that your property at [ ] is a site where radium-226 was previously used. Specifically, a building that was previously on your property was used as a Sanitarium, wherein radium was used to treat patients. If you are not the current owner of the property, please let us know whom we should contact. Radium-226 is a radioactive isotope that, in certain quantities, may pose a risk to public health and safety. Radium-226 is regulated by the U.S. Nuclear Regulatory Commission (NRC). We do not know whether there is a current radiological issue at your property, and it is important that you contact us at your earliest convenience. We are requesting access to your property to perform radiological surveys and to collect samples to determine whether there is any residual contamination resulting from this historical use of radium on your property. This testing will not damage your property and these tests will be conducted at no cost to you. If residual contamination at your property has already been remediated, please provide us with records describing cleanup activities and the status of the remediation.

To successfully complete our tests, we need to schedule an initial visit. The initial site visit will serve two purposes: 1) to determine whether there is any readily detectable radium contamination; and 2) to allow us to start planning a scoping survey, if needed. During our initial site visit we will determine if a follow-up scoping survey is necessary. The scoping survey will involve a more detailed radiological survey to determine if there is any residual contamination. After each visit, we will share results with you as soon as they are available.

These tests will determine whether your site requires remediation to remove residual contamination. Should remediation be required, we will provide additional information on any actions that may be necessary to ensure protection of public health and safety. Please be aware that under the NRC's regulations, site owners are responsible for the costs associated with these remediation activities; as a regulatory agency, the NRC cannot provide funding. This does not, however, preclude site owners from using alternative legal options that may be available under State or Federal law to fund remediation activities. We recognize that you may not be aware of

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[ ]

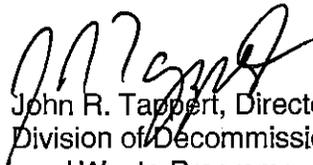
historical radium use at your site and we will continue to work with you to address and resolve this matter.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," upon removal of the bracketed information, a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

The enclosed Site Summary Report provides all of the information that the NRC has concerning historical radium storage at your property, which we found through a search of publicly available information. The enclosed Backgrounder provides more detail on the history of radium use and its potential health effects. The enclosed brochure provides an overview of the NRC.

We would like to work with you to schedule our initial site visit and answer any questions you might have. At your earliest convenience, please contact Mr. Matthew Meyer, Acting Chief, Materials Decommissioning Branch, Division of Decommissioning, Uranium Recovery and Waste Programs, Office of Nuclear Materials Safety and Safeguards, at (301) 415-6198, or Mr. Kenneth Kalman, Project Manager, at (301) 415-6664.

Sincerely,



John R. Tappert, Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 3038983

Enclosures:

1. Site Summary Report
2. Radium Backgrounder
3. U.S. Nuclear Regulatory Commission *Overview*

REGISTERED LETTER – RETURN RECEIPT REQUESTED

### Indiana Radium Institute: Site Summary

The following information was extracted from public records.

#### Address

[ ]

#### Site Description/History

According to early 1920s advertisements, the Indiana Radium Institute contained “ample laboratory facilities and consulting staff for accurate and scientific application of radium” (JAMA, 1921) and provided “radium for renting purposes” (JMSMS, 1921). Also, the advertisements referenced the use of radium in solution for emanation and suggested a relatively high activity of radium in their possession.

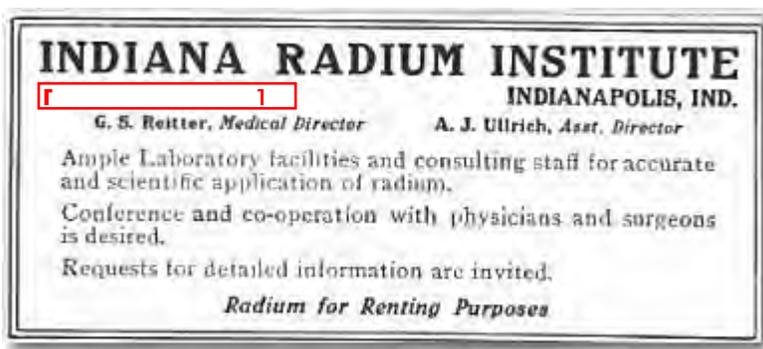


Figure 1. Advertisement from JAMA (1921)

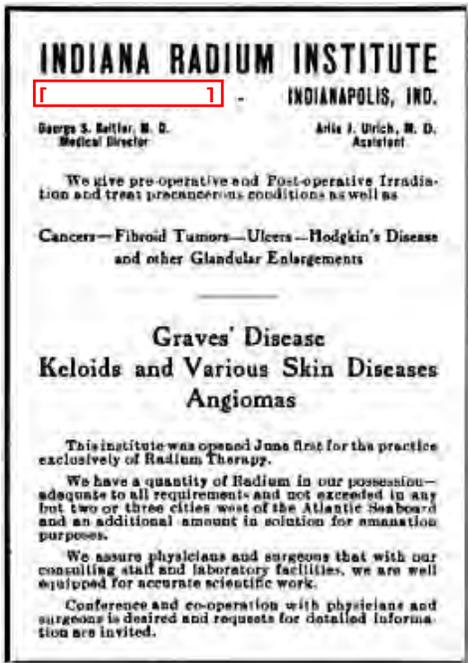


Figure 2. Advertisement from JMSMS (1921)

According to 1940 Census results found on ancestry.com (2015), the address appeared to be a residence for several women. There is no information in the public records about this address post 1940.

**The amount/extent of radium contamination at these sites (including historical information and/or informed assumptions about the radium facilities' structures/areas, processes, and activities)**

It is unknown the exact amount of radium that was available at this facility. According to advertisements, the Indiana Radium Institute performed accurate and scientific application of radium, rented radium, and used radium in solution for emanation.

Summary of Current Levels of Radium:

As of November 2015, current levels of radium are unknown based on information reviewed for this report.

**Location and population near the sites**

In order to identify the exact location of the former facility, a 1915 Sanborn Fire Insurance map (Indiana University, 2015) was overlaid on a high resolution aerial photo from 2006. The resulting image is Figure 3. The map shows the location of the former Indiana Radium Institute (sanitarium) on [redacted]. The location is currently within a parking lot for apartments to the south and the [redacted] easement to the north (see Figure 4). This area appears to be mostly residential.

A close-up of this location (Figure 4) shows that the Institute is no longer there. It is unknown when the building was demolished. The site may contain soil that is contaminated with radium.

Indianapolis is the capital of the U.S. state of Indiana and the county seat of Marion County. Indianapolis is the largest city in Indiana, second largest in the American Midwest, and 14th largest in the U.S. According to the 2010 U.S. census, the population of Indianapolis was 820,445; the 2014 population estimate for the city was 848,788 (United States Census Bureau, 2015).

[

]

Figure 3. Location of Indiana Radium Institute ([ ], see red arrow). Image created by overlaying a Sanborn Fire Insurance map from 1915 (yellow and pink buildings) onto a 2006 aerial photo

[

]

Figure 4. Enlargement of Figure 3 showing the location of Indiana Radium Institute in 1915.

**Current State/other Federal involvement**

As of November 2015, no information about radium cleanup was located in the public records.

**Current access, activities, and uses at the site**

There are apartments adjacent to the site location and other residences nearby. The rest of the area is part if the [ ] easement.

**Existing Engineering Controls**

There are no engineering controls.

## **Prioritization Ranking**

Radium is confirmed to have been present at the site based on historical documentation that radium was used at the facility. The original building has been demolished. The site consists of soil that is potentially contaminated by radium. The site is occupied or frequented by visitors. Therefore, the site is classified as Tier 1.

## **References**

Ancestry.com. 1940. Accessed June 3, 2015. 1940 Census. [

]

Google Earth. 2014. Accessed June 3, 2015. <https://www.google.com/maps/>.

Indiana University. 2015. Accessed October 2015. Spatial Data Portal. Map number 02371\_04\_1915-0359.pdf.  
<https://spatialdata.iu.edu/DOQQS/state/sanborn/public/pdf/1915/>

Journal of the American Medical Association (JAMA). 1921. Advertisement for Indiana Radium Institute. Vol. 76: p 52. February 26, 1921.

Journal of the Missouri State Medical Society (JMSMS). 1920. Advertisement for Indiana Radium Institute. 17(10):xvii . 1920.

United States Census Bureau. Accessed October 2015.  
<http://www.census.gov/quickfacts/table/PST045214/1836003,00>.

## Radium

Radium was one of the first radioactive elements ever discovered. Marie and Pierre Curie unlocked the atom's secrets in 1898, opening the door for important innovations using radioactivity in medicine and industry. Radiation quickly became a consumer and medical sensation and radium was the posterchild. Experts concluded radiation was a lifesaver after finding it reduced tumor growth and was present in the waters at some health spas. Soon there were many radium products on the market that purported to improve health and vitality. But tragic stories began to emerge of the health impacts. Perhaps the most well-known is the "radium girls," who painted watch faces with glow-in-the-dark radium paint and developed infections and jaw cancer from licking their brushes into fine points.

### Early regulation

When evidence of harm began to emerge in the early 1900s, the states each made their own decisions about how to regulate. Courts also took varying approaches on victim compensation. The federal government took action to guard against false advertising and regulate mail shipments, conducted studies, and organized some voluntary protections.

As radioactive materials became more widely available following World War II, they remained largely under state control. Radium use declined in medical and consumer products in favor of other safer materials.

### Regulation today

Work on securing radioactive materials took on new urgency following the terrorist attacks on the United States in September 2001. Those attacks prompted the International Atomic Energy Agency to develop a code of conduct in 2004 to limit the potential for malicious acts. That code places one form of radium, known as radium-226, and other radioactive materials into categories based on their quantity and potential hazard.

The NRC has specific security requirements tied to these categories. As support for the IAEA code grew, Congress passed the Energy Policy Act in 2005, giving the NRC authority over radium-226. This law marked the first time the federal government had a comprehensive role in ensuring the safe use of radium-226.

Many states had developed strong programs for regulating radium and other naturally-occurring radioactive materials and it took time to transition authority. The NRC had regulations in place and fully assumed oversight in 2009. Initially, NRC staff worked exclusively with the military to identify sites

where radium might be present. These discussions made clear that the NRC's role would include ensuring that sites where radium was used are maintained in a way that protects public health and safety.

In 2016, the NRC and Department of Defense signed a [Memorandum of Understanding \(MOU\)](#) describing roles in the cleanup of radium and other unlicensed radioactive materials at military sites. The MOU and a [Regulatory Issue Summary](#) clarify NRC's jurisdiction over military radium. In late 2016, the NRC began monitoring two sites under the MOU: Treasure Island Naval Station in San Francisco and Dugway Proving Ground in Utah.

In 2013, the agency learned of two commercial sites where radium-226 had been found and other federal agencies had gotten involved. The Environmental Protection Agency was overseeing portions of the Waterbury Clock Company in Connecticut. The National Park Service was overseeing Great Kills Park in New York.

NRC staff is working with the current owner of the Waterbury Clock Company site. Contaminated areas of the site are under EPA oversight through its Brownfields Program, which provides assistance to clean up contaminated properties. NRC staff is working with EPA to clarify oversight roles and responsibilities under that program.

In 2016, NRC staff began developing an MOU with the National Park Service that will also clarify the NRC's jurisdiction over radium at Great Kills Park. The NRC is monitoring cleanup activities that the Park Service is implementing under Superfund, more formally known as the Comprehensive Environmental Response, Compensation and Liability Act.

Those projects prompted a search to identify sites in NRC's jurisdiction where radium was used, and to find out how much, if any, cleanup was done. This search was not a result of any known health and safety issues. Rather, because of its mandate to protect public health and safety, the NRC wanted to be sure there were no additional sites that might pose a risk.

With the help of the Oak Ridge National Laboratory, the NRC began to develop a fuller picture of commercial radium use. The lab produced a [catalog](#) of the various products developed and sold to the public in the early 20<sup>th</sup> century. By reviewing publicly available records, Oak Ridge identified sites where radium may have been used to make consumer goods. Then the lab looked for any cleanup records. Oak Ridge transmitted the results to the NRC in November 2015. Since that time, the agency has been working on plans to gather more information about those sites.

The NRC is working with state and local governments to identify any additional records that may help clarify whether any site cleanup has taken place. The goal is to ensure that public health and safety is adequately protected at these sites.

**October 2016**

## OTHER KEY OFFICES

- ◆ The **Office of Enforcement** develops policies and programs to enforce NRC requirements. Enforcement action is used as a deterrent to emphasize the importance of compliance with regulatory requirements and to encourage prompt identification and prompt, comprehensive correction of violations. The office manages major enforcement actions against licensees, and assesses the effectiveness and uniformity of enforcement actions taken by NRC regional offices. Enforcement powers include notices of violations, fines, and orders to modify, suspend or revoke a license. Two separate offices are responsible for investigations.
- ◆ The **Office of Investigations** conducts investigations of licensees, applicants, contractors and vendors. The office investigates all allegations of wrongdoing by individuals or organizations other than NRC employees and NRC contractors. In addition, the office keeps abreast of inquiries and inspections and advises on the need for formal investigations. It also keeps other components of the agency informed of matters under investigation as they affect safety.
- ◆ The **Office of the Inspector General** is a statutory post mandated by the Inspector General Amendments Act of 1988. The office conducts independent reviews and appraisals of internal NRC programs and conducts investigations of alleged wrongdoing by NRC employees and contractors.

## Office of Public Affairs

Washington, DC 20555-0001

Telephone: (301) 415-8200

Fax: (301) 415-3716

E-mail: [opa.resource@nrc.gov](mailto:opa.resource@nrc.gov)

Website: [www.nrc.gov](http://www.nrc.gov)

## Regional Public Affairs Offices



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King of Prussia, PA 19406-2713  
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(817) 200-1128



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June 2016

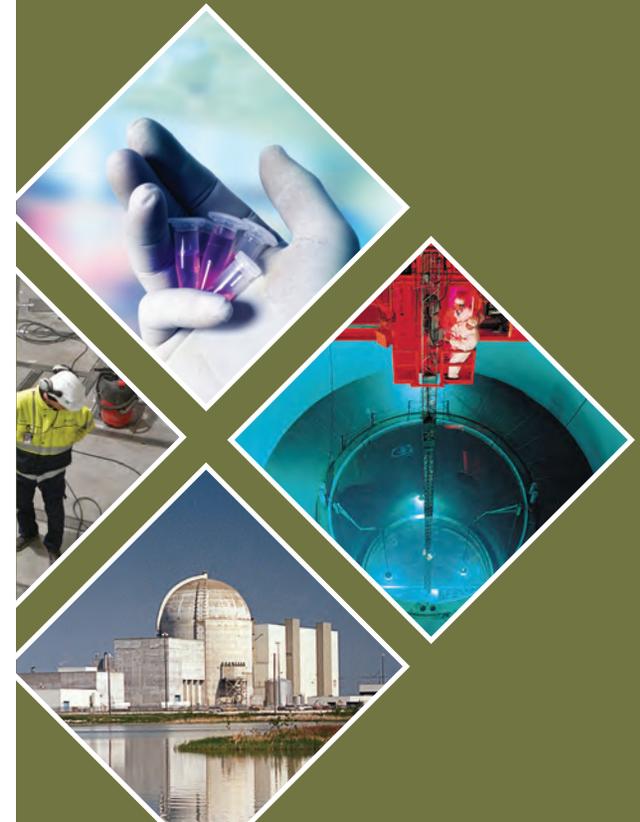
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## U.S. Nuclear Regulatory Commission Overview



## NRC MISSION

The NRC licenses and regulates the Nation's civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment. Specifically, the NRC regulates commercial nuclear power plants; research, test and training reactors; nuclear fuel cycle facilities; and the use of radioactive materials in medical, academic and industrial settings.

The agency also regulates the transport, storage, and disposal of radioactive materials and waste, and licenses the import and export of radioactive materials. While the NRC only regulates industries within the United States, the agency works with agencies around the world to enhance global nuclear safety and security.

## STATUTORY AUTHORITY

The Energy Reorganization Act of 1974 created the NRC from the Atomic Energy Commission. The new agency was to oversee — but not promote — the commercial nuclear industry. The agency began operations on January 18, 1975. The NRC's regulations can be found in Title 10, "Energy," of the *Code of Federal Regulations* (10 CFR).

The NRC, its licensees (those licensed by the NRC to use radioactive materials), and the Agreement States (States that assume regulatory authority over use of certain nuclear materials) share a responsibility to protect public health and safety and the environment. Federal regulations and the NRC's regulatory program are key, but the primary responsibility for safely handling and using these materials lies with the licensees.



## ORGANIZATIONS AND FUNCTIONS

The NRC's Commission is made up of five members nominated by the President and confirmed by the U.S. Senate for 5-year terms. The President designates one member to serve as Chairman. The Chairman acts as the principal executive officer and spokesperson of the agency. The members' terms are staggered so that one Commissioner's term expires on June 30 every year. No more than three Commissioners can belong to the same political party.

The Commission formulates policies and regulations governing nuclear reactor and materials safety, issues orders to licensees, and adjudicates legal matters. The Executive Director for Operations carries out the policies and decisions of the Commission, and directs the activities of the program and regional offices. The NRC has about 3,600 employees and an annual budget of about \$1 billion.

The NRC is headquartered in Rockville, Md., and has four regional offices. The **Regional Offices** conduct inspection, enforcement (in conjunction with the Office of Enforcement), investigation, licensing, and emergency response programs. At least two NRC employees, called Resident Inspectors, are assigned to, and work out of, each nuclear power plant. The NRC also has a Technical Training Center in Tennessee.

The major program offices within the NRC include:

- ◆ **The Office of Nuclear Reactor Regulation.** Handles all licensing and inspection activities for existing nuclear power reactors and research and test reactors.
- ◆ **The Office of New Reactors.** Oversees the design, siting, licensing, and construction of new commercial nuclear power reactors.
- ◆ **The Office of Nuclear Security and Incident Response.** Oversees agency security policy for nuclear facilities and users of radioactive materials. It provides a safeguards and security interface with other Federal agencies and maintains the agency's emergency preparedness and incident response program.



◆ **The Office of Nuclear Material Safety and Safeguards.** Regulates activities and oversees the regulatory framework for the safe and secure production of commercial nuclear fuel and the use of nuclear material in medical, industrial, academic and commercial applications; uranium recovery activities; and the decommissioning of previously operating nuclear facilities. It regulates safe storage, transportation, and disposal of high- and low-level radioactive waste and spent nuclear fuel. The office also works with Federal agencies, States, and Tribal and local governments on regulatory matters.

- ◆ **The Office of Nuclear Regulatory Research.** Provides independent expertise and information for making timely regulatory judgments, anticipating problems of potential safety significance, and resolving safety issues. It helps develop technical regulations and standards and collects, analyzes, and disseminates information about the safety of commercial nuclear power plants and certain nuclear materials.

Three independent groups serve the Commission:

- ◆ **Advisory Committee on Reactor Safeguards,** mandated by statute, is a committee of scientists and engineers independent of NRC staff. They review and make recommendations to the Commission on all applications to build and operate nuclear power reactors, the safety aspects of nuclear facilities and the adequacy of safety standards. This includes update license amendments and license renewals.
- ◆ **Advisory Committee on the Medical Uses of Isotopes** is made up of physicians and scientists who consider medical questions and, when asked, give expert opinions to the NRC on the medical uses of radioactive materials.
- ◆ **Atomic Safety and Licensing Board Panel** provides a way for the public to get a full and fair hearing on civilian nuclear matters. Individuals who are directly affected by licensing action involving certain facilities producing or using nuclear materials may submit a request to participate in a hearing before these independent judges.

[ ]

historical radium use at your site and we will continue to work with you to address and resolve this matter.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," upon removal of the bracketed information, a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

The enclosed Site Summary Report provides all of the information that the NRC has concerning historical radium storage at your property, which we found through a search of publicly available information. The enclosed Backgrounder provides more detail on the history of radium use and its potential health effects. The enclosed brochure provides an overview of the NRC.

We would like to work with you to schedule our initial site visit and answer any questions you might have. At your earliest convenience, please contact Mr. Matthew Meyer, Acting Chief, Materials Decommissioning Branch, Division of Decommissioning, Uranium Recovery and Waste Programs, Office of Nuclear Materials Safety and Safeguards, at (301) 415-6198, or Mr. Kenneth Kalman, Project Manager, at (301) 415-6664.

Sincerely,

*/RA/*

John R. Tappert, Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 3038983

Enclosures:

- 1. Site Summary Report
- 2. Radium Backgrounder
- 3. U.S. Nuclear Regulatory Commission *Overview*

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-3-

SUBJECT: INDIANA RADIUM INSTITUTE-3—RESULTS AND CONCLUSIONS OF THE  
U.S. NUCLEAR REGULATORY COMMISSION'S INITIAL SITE VISIT

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