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

June 8, 2018

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SUBJECT: PROPERTY AT **[** **]** – REQUEST TO CONTACT THE U.S. NUCLEAR REGULATORY COMMISSION

Dear **[** **]**:

I am writing to inform you that our records indicate that your property at **[** **]** may have previously been used by Mr. Charles Olivier as a storage location for Superior Instrument Service, Inc., a wholesaler of aircraft instruments. If you are not the current owner of the property, please let us know whom we should contact. Based on information provided by the State of Michigan, aircraft gauges and aircraft flight instruments that may have been stored at your property may have contained radium-226, a radioactive isotope that, in certain quantities, may pose a risk to public health and safety. Radium-226 was commonly used in World War II era aircraft instruments such as luminous radium dials and gauges. Radium-226 is regulated by the U.S. Nuclear Regulatory Commission (NRC). However, we are uncertain if any of this material was stored at this property and remains at your property and are requesting that you contact us at your earliest convenience to discuss this matter. If material left over from the previous owner of your property has not been removed, we can discuss any next steps that might be appropriate. We recognize that you may not have been aware of the historical use of your property, and we will continue to work with you to address and resolve this matter.

Additionally, if you have any forwarding address or contact phone numbers for Charles Olivier, we would appreciate if you could share that information.

The enclosed Site Summary Report provides all of the information that the NRC has concerning historical radium storage at your property, which was provided to us by the State of Michigan or 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.

INFORMATION IN THIS LETTER AND ITS ENCLOSURES HAS BEEN DESIGNATED AS PERSONALLY IDENTIFIABLE INFORMATION. UPON REMOVAL OF THE BRACKETED INFORMATION THE LETTER AND ITS ENCLOSURES CAN BE MADE PUBLICLY AVAILABLE.

In accordance with Title 10 of the *Code of Federal Regulations* Section 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.

We would like to work with you to resolve this matter. At your earliest convenience, please contact Mr. Stephen Koenick, Chief, Materials Decommissioning Branch, Division of Decommissioning, Uranium Recovery and Waste Programs, Office of Nuclear Materials Safety and Safeguards, at (301) 415-6631, or Mr. Jeffrey Whited, Project Manager, at (301) 415-4090.

Sincerely,

/RA/

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

Docket No. 03039083

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

REGISTERED LETTER – RETURN RECEIPT REQUESTED

SUBJECT: PROPERTY AT **[ ]** – REQUEST TO CONTACT THE U.S. NUCLEAR REGULATORY COMMISSION **June 8, 2018**

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DATE	05/17/2018	05/17/2018	05/17/2018	05/25/2018	06/04/2018	06/08/2018

OFFICIAL RECORD COPY

Superior Instrument Service, Inc.: Site Summary

Prepared by
Oak Ridge Associated Universities
Under NRC Contract Number HQ-50-17-A-0001

March 23, 2018

Prepared for
U.S. Nuclear Regulatory Commission

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Superior Instrument Service, Inc.: Site Summary

The following information was extracted from public records.

Addresses

Address 1: **[ ]** (from 1963 to 1987)

Address 2: 1661 Airport Road, Waterford Charter Township, Michigan 48327 (after 1987)

Site Description/History

Superior Instruments Services, Inc. (Superior) was a wholesaler of aircraft instruments in the Waterford, Michigan, area that started operating on July 15, 1963, and dissolved on July 15, 1997 for unknown reasons (OpenCorporates 2017).

According to the Corporations Division of Michigan's Department of Licensing and Regulatory Affairs (LARA), Superior's initial registered address was **[ ]** (Address 1). An online public records directory lists Address 1 as a previous address for a Charles Olivier, the name of the registered owner of Superior, according to LARA, who is from Mt. Clemens, Michigan (Public Info Directory, 2018). The approximately 4,000-square-foot property at this address (seen in Figures 1 and 2) shows a residential house and detached garage in a suburban neighborhood (Google Earth Pro 2017). Historical imagery dating back to 2002 shows that despite some remodeling of the house, the property and area has not changed over the last 15 years—compare Figures 1 and 2 to see remodeling changes (Google Earth Pro 2017).

The second registered address provided by LARA was listed as "Oakland Pontiac Airport, Waterford, Michigan 48327" under registered owner Charles Olivier. Further investigation identified another address associated with Superior and Charles Olivier at 1661 Airport Road, Waterford Charter Township, Michigan, which appears to be located at the Oakland Pontiac Airport (Finduslocal 2017). This address is also listed for Alternative Avionics, a wholesaler of aircraft equipment, parts, and supplies. This business also dissolved on July 15, 2015 (OpenCorporates 2017). Figure 3 shows an empty lot containing a slab, but an aerial photograph from April 2002, Figure 4, shows two buildings previously occupying the property (Google Earth Pro, 2017). No direct information was found to determine which building might be associated with Superior. However, due to its closer proximity to Airport Road and being situated between the 1675 and 1435 street addresses, Location 1 is presumed to be associated with 1661 Airport Road and Superior.

The State of Michigan surveyed the property at 1661 Airport Road in 1992 and identified materials likely containing radium. Available information suggests that the owner at the time intended to move radiological materials from "the airport property" to his garage until disposal could be arranged (NRC 2017). It is presumed that the **[ ]** property contains the garage mentioned in the 1992 State of Michigan report. It is presumed that 1661 Airport Road (Address 2) represents the "airport property" mentioned in the 1992 State of Michigan report.

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Figure 1. Street View of Address 1 in 2012 – [ ]
(Google Earth Pro 2017)

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Figure 2. Aerial View of Address 1 in 2017 – [ ]
(Google Earth Pro 2017)

Figure 3. Aerial View of Address 2 in 2017 – 1661 Airport Road (Google Earth Pro 2017)

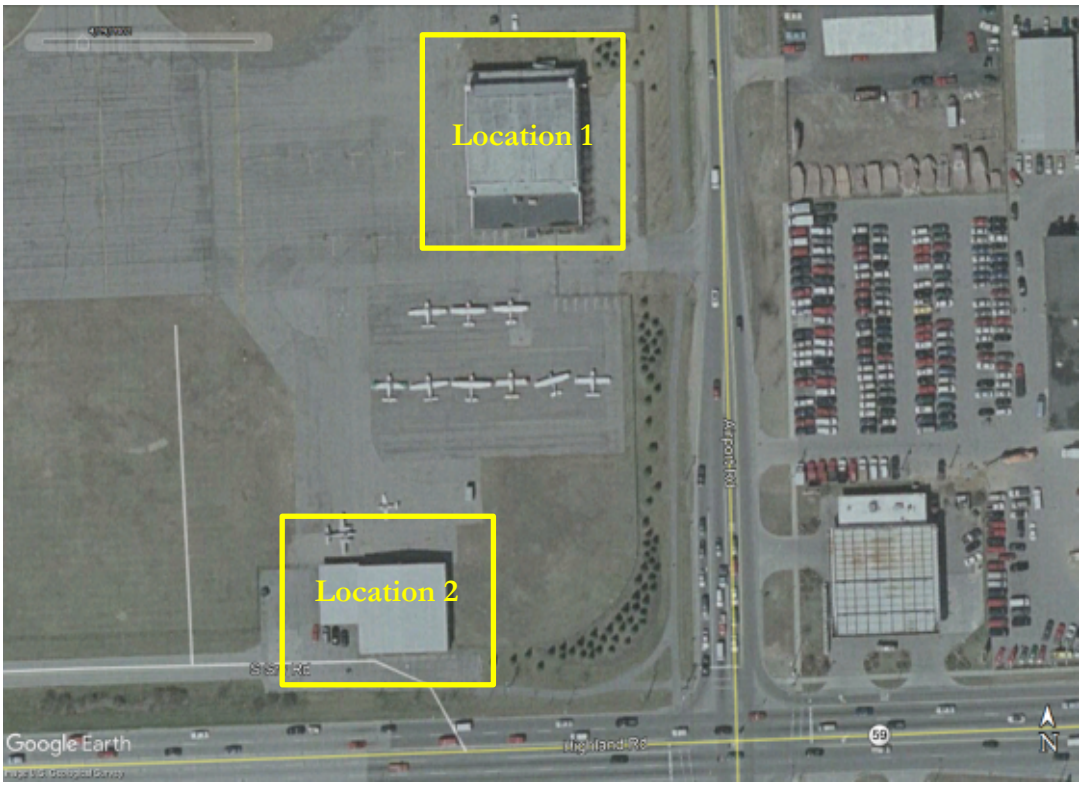

Figure 4. Aerial View of Address 2 in 2002 – 1661 Airport Road (Google Earth Pro 2017)

Information Regarding Radium Sources/Contamination at the Sites

In July of 1992, representatives of the State of Michigan visited the airport site and reported that the owner was preparing to move all of Superior's materials from a property in Pontiac to a small storage area in the garage at his private residence, presumably Address 1. The State indicated that he would need assistance in disposing of radioactive items (NRC 2017). As of August 2017, radioactive materials information (specifically, radium-containing items) associated with Superior's past activities is unknown. Based on the State of Michigan's investigation in 1992, radium-containing items might still be in the possession of the registered owner, Charles Olivier. Since 1992, Charles Olivier has moved from Address 1, so it is possible that the radioactive items were moved to his unknown current residence.

Summary of Current Radium Levels:

As of August 2017, it is not known if radium sources and/or radium contamination are present at the sites.

Location and Population Near the Sites

The Township of Waterford is located in Oakland County. According to the 2010 U.S. Census, the population of Waterford Charter Township was 71,707; the 2016 population estimate for the township was 72,866 (United States Census Bureau 2017). Figures 5 and 6 show the location of both properties believed to be associated with Superior, each within the respective local community.

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Figure 5. Aerial View of Address 1 in 2017 – [ ] (Google Earth Pro 2017)

Figure 6. Aerial View of Address 2 in 2017 – 1661 Airport Road (Google Earth Pro 2017)

Current State/other Federal Involvement

An extensive internet search of public records did not reveal any information concerning recent State and/or Federal involvement with properties previously occupied by Superior. The State of Michigan's 1992 investigation provides the only record of a connection between radioactive materials and previous Superior activities via the owner's statement that he would "need assistance in disposal of his radioactive items" (NRC 2017). However, no records indicating disposal were found.

Current Access and Activities at the Site

Superior was dissolved in July of 1997 (OpenCorporates 2017) and is no longer operating. The last registered address is 1661 Airport Road, Waterford Charter Township, Michigan 48327, which is associated with the registered owner, Charles Olivier (Finduslocal 2017). According to records available at the time of this investigation, Alternative Avionics, an aircraft supply store, is the current occupant of the property at 1661 Airport Road (Yellowpages 2017). However, since there is now no building on the site, it is unclear if Alternative Avionics still owns the property. A direct connection between Superior and Alternative Avionics could not be found.

The **[ ]** property, Address 1, is currently a private residence. At some unknown time, Charles Olivier moved from the property, and the current resident is listed in the 2018 Whitepages.

Existing Engineering and Administrative Controls

No engineering or administrative controls are known to exist at either the 1661 Airport Road or the **[ ]** locations.

Prioritization Ranking

NRC assigns a prioritization ranking for each site based on two factors. The first factor relates to whether or not the historical record confirms the presence of radium and there is no documentation that the radium contamination was previously remediated. The second factor considers the potential for human exposure. Based on these factors, the site is assigned Tier 1, 2, 3, or 4 using the following criteria:

- Tier 1 = the historical record confirms the presence of radium, the building or adjacent lands are occupied or frequented by visitors, and site access is not controlled.
- Tier 2 = the historical record confirms the presence of radium, the building or adjacent lands are not occupied or frequented by visitors, and site access is weakly controlled.
- Tier 3 = the historical record confirms the presence of radium, the building or adjacent lands are not occupied or frequented by visitors, and site access is strongly controlled.
- Tier 4 = the presence of radium is suspected but not confirmed by the historical record.

After extensive research, it is suspected that radioactive materials were used during Superior's former activities, solely based on the 1992 statement that the owner "will need assistance in disposing of radioactive items." These items are presumably radium-containing gauges or similar, but the record does not specifically mention radium. Information about the amount and current location of these radioactive materials, as well as isotopic information, is unknown. Based on these findings, Superior is classified as Tier 4.

References

Finduslocal 2017. http://www.finduslocal.com/aircraft-instruments-wholesale/michigan/waterford/superior-instrument-service, accessed August 2017.

Google Earth Pro 2017. Software, Version 7.3.0.3830 (32-bit), accessed August 2017.

NRC 2017. *Letters from the State of Michigan re: Non-Military Radium Program*, prepared by the State of Michigan under Cooperative Agreement with the Nuclear Regulatory Commission, Regional Offices and the Office of Nuclear Materials Safety and Safeguards. July 7, 2017. (Agencywide Documents Access and Management System [ADAMS] Accession No. ML16288A777).

OpenCorporates 2017. https://opencorporates.com/registers, accessed August 2017.

Public Info Directory 2018. https://publicrecords.directory/profiles/charles-olivier.15764111.html, accessed February 2018.

United States Census Bureau 2017. https://www.census.gov/quickfacts/fact/table/waterfordchartertownshipoaklandcountymichigan/RHI705210, accessed August 2017.

Whitepages 2018. https://www.whitepages.com, accessed February 2018.

Yellowpages 2017. https://www.yellowpages.com/waterford-mi/mip/alternative-avionics-8548211, accessed August 2017.

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

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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 20th 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.

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NUREG/BR-0099, Rev. 14
June 2016

STAY CONNECTED

U.S.NRC
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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 uprate 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 facilites producing or using nuclear materials may submit a request to participate in a hearing before these independent judges.