
POLICY ISSUE

(Information)

February 5, 2016

SECY-16-0020

FOR: The Commissioners

FROM: Scott W. Moore, Acting Director
Office of Nuclear Material Safety
and Safeguards

SUBJECT: NEAR-TERM ACTIONS TO ADDRESS NON-MILITARY SITES WITH
POTENTIAL RADIUM CONTAMINATION

PURPOSE:

The purpose of this paper is to inform the Commission of non-military sites with potential radium contamination and the near-term U.S. Nuclear Regulatory Commission (NRC) staff actions for building and implementing the programmatic infrastructure to notify States, obtain additional site information, conduct scoping surveys, and evaluate the potential risk at identified sites. This paper does not address any new commitments.

SUMMARY:

With the enactment of the Energy Policy Act of 2005 (EPAAct), the U.S. Congress expanded the NRC's jurisdiction to include certain discrete sources of radium-226. In 2007, the NRC revised its regulations to conform its definition of byproduct material to that set out in the EPAAct. Staff informed the Commission, in SECY-14-0092, "Staff Efforts for Addressing Decommissioning Issues at Non-Licensed Radium Sites Unaffiliated with The Military" (ML14080A297), of the NRC-directed Oak Ridge National Laboratory (ORNL) site identification effort. As a result of this work, staff identified a number of sites where radium was previously used primarily as part of a manufacturing process and where records on current levels of contamination (if any) and cleanup results are unavailable or unclear. This paper provides the Commission with the

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names and locations of the sites identified, planned near-term staff actions to address these sites, and resource needs for this work.

BACKGROUND:

The EAct expanded the definition of byproduct material to include certain discrete sources of radium-226, other discrete sources of naturally-occurring radioactive material, and certain accelerator-produced radioactive material under NRC jurisdiction. Collectively, these materials are referred to as Naturally-Occurring and Accelerator-Produced Radioactive Material (NARM).¹

Specifically, Section 651(e)(3)(A) of the EAct (Section 11.e.(3)(A) of the Atomic Energy Act of 1954, as amended; 42 U.S.C. 2014(e)(3)(A)) changed the definition of byproduct material to include “any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity.” On November 30, 2007, the NRC implemented this provision of the EAct by changing the definition of byproduct material in Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 20, 30, 50, 72, 150, 170, and 171 to be consistent with the EAct in the final rule “Requirements for Expanded Definition of Byproduct Material” (72 FR 55864; October 1, 2007) (NARM rule). Additionally, the NRC established a definition for the term “discrete source” to be used for the purposes of the new definition of byproduct material, as this term was not specifically defined by the EAct. The NRC’s regulations in 10 CFR Parts 20, 30, 110, and 150 define a discrete source as “a radionuclide that has been processed so that its concentration within a material has been purposely increased for use for commercial, medical, or research activities.” *Id.* at 55870. The Statements of Consideration for the NARM rule noted that “once a discrete source meets the definition of *Byproduct material*, any contamination resulting from the use of such discrete sources of this byproduct material will also be considered byproduct material.” *Id.* at 55871. Since 2007 NRC staff has been working to resolve radium decommissioning jurisdictional issues with the military. In 2009, the NRC completed the phased implementation of its regulatory authority for radium in all non-Agreement States. In 2013, NRC became aware of non-military radium contaminated sites through inspection/licensing activities (i.e., Great Kills Park and former Waterbury Clock Company). As a result, in 2014-2015, NRC contracted Oak Ridge National Laboratory (ORNL) to conduct a search to identify, describe, and prioritize potential sites.

As discussed in SECY-14-0092, staff initiated an effort through ORNL in 2014 to identify non-military sites, with potential radium contamination, concentrating on sites in non-Agreement States (information on sites in Agreement States was also incidentally gathered). ORNL began this effort by identifying manufacturers of radium-containing consumer products. The purpose of focusing on manufacturers of radium-containing consumer products was to identify sites that likely handled large amounts of radium as unsealed sources. This effort was proposed by the NRC staff in 2014 when staff became aware of six sites in 2013 with historical radium use and potential contamination in the State of Connecticut. At one such site, the former Waterbury Clock Company, the NRC staff worked collaboratively with the current site owner to ensure that

¹ The NRC’s Agreement States and certain non-Agreement States had regulatory programs for Naturally-Occurring and Accelerator-Produced Radioactive Material prior to the implementation of the EAct.

controls were in place for the known contaminated areas of the site (i.e., areas with current U.S. Environmental Protection Agency involvement through the Brownfields Program).

DISCUSSION:

The NRC staff has planned a comprehensive approach to address sites with potential radium contamination. The staff contracted assistance from ORNL in 2014, which, in a different effort not related to radium, previously identified and researched formerly licensed sites for the NRC in the 1990s. ORNL's current effort included identifying, describing, and prioritizing sites with historic manufacturing of products that contain radium. This focus on manufacturers of radium-containing consumer products was to identify sites that likely handled large amounts of radium as unsealed sources, and thus, have the highest potential for radium contamination. Such sites were not licensed by the NRC because their operations pre-dated the EPA Act.

ORNL searched publicly available records for the following information: 1) the amount/extent of historical radium use at these sites; 2) locations of sites and population near the sites; 3) current State/Federal involvement; 4) records of past remediation; and 5) current site occupancy and access. This information was documented for each site, and ORNL prioritized each site in terms of potential human health risk. It is important to note that ORNL primarily identified locations of historic non-military radium manufacturing activities and some other uses, but ORNL did not focus on identifying less significant locations of historic radium use (e.g., small medical offices) or historic landfills.

The site prioritization, or "Tiers," is based on the criteria provided in Enclosure 1. These criteria identify whether the historical use of radium is "confirmed" or "suspected." Confirmed sites (i.e., sites in Tiers 1-3) are those sites where radium is known to have been present at one time based on either historic records of radium use or radiological surveys. Suspected sites (i.e., sites in Tier 4) are sites where radium could have been present, based on the historic uses of the site, but radium was not explicitly documented to have been present. The NRC staff prioritized the confirmed sites (i.e., Tiers 1-3) based on potential radiological risk of exposure to the public. The potential risk to the public is based on site access and current use, since the amount, if any, of radium is currently unknown. The sites with the highest priority for NRC follow-up activities are listed as Tier 1 sites.

Results of ORNL Site Identification and Prioritization

ORNL identified 29 sites in non-Agreement States with either confirmed or suspected historic radium use. Of these, there are 21 confirmed and eight suspected sites. Enclosure 2 provides the names and locations of these sites. The types of sites identified include former radium watch and clock factories, storage facilities, medical treatment facilities, and scrap yards. Of the 21 confirmed sites, 19 are Tier 1 sites. These Tier 1 sites are the highest priority because they were identified as being occupied or visited by the public. These Tier 1 sites are located in Connecticut, Indiana, Michigan, and Montana.

Need for NRC Action

The staff plans to begin evaluating the 19 Tier 1 sites first, based on the confirmed historical use of radium, the fact that final remediation records are unavailable, and because the sites are frequented by the public. However, it is unknown whether radium contamination is currently present and, if so, the amount and extent of current contamination. For all of the confirmed sites, initial site visits will be performed to determine whether there are any immediate health and safety concerns. After all site visits are completed, radiological scoping surveys will follow the initial site visits to determine whether radium contamination is currently present and to determine whether further characterization is necessary. If contamination is found, initial dose assessments are needed to determine if follow-up actions, such as establishing site access controls and working with site owners to remediate the sites, are warranted. Additionally, because States had jurisdiction for radium before the EPA Act, State assistance is needed to obtain additional information about past site activities and cleanup.

Near-Term NRC Actions for Sites in Non-Agreement States

The NRC staff has initiated actions to build the programmatic infrastructure for future NRC site visits, scoping surveys, and outreach strategies for all identified sites (beginning at Tier 1 sites). NRC staff intends to:

- Begin outreach to non-Agreement States in March 2016 to gather more information about the sites identified by NRC.
- Complete initial non-Agreement State outreach and begin contacting site owners in April-May 2016 to schedule initial site visits.
- Begin performing initial site visits to determine whether there are any immediate health and safety concerns at identified sites as soon as practicable after contact with site owners (assuming cooperative owners²).
- Achieve goal of completing initial site visits at identified sites by the end of fiscal year (FY) 2016.
- Begin scoping surveys after all initial site visits are complete.

Aspects of this work, and other activities, are further discussed in Enclosures 3 and 4. Enclosure 3 discusses the actions that the staff is taking in the near term, as well as an upcoming Commission paper on policy issues regarding regulation of these sites. Enclosure 4 discusses the staff's plan for outreach to non-Agreement States.

Agreement States Outreach Activities

As part of ORNL's site identification and information collection effort, information on potential sites of interest within Agreement States was also collected. Staff will share this site-specific information with the Agreement States. The NRC will also provide to the Agreement States any regulatory products it develops, such as Temporary Instructions. Since many Agreement States have prior experience with radium contamination and cleanup, staff plans to collaborate with the States to share best practices.

² It is important to note that some sites may have multiple owners.

RESOURCES:

Some, but not all of the forecasted resources needed for the project management, inspection and performance assessment activities for the historical radium site identification effort are included in the FY 2016 Enacted Budget and the FY 2017 Congressional Budget Justification under the Decommissioning and Low-Level Waste business line. Staff will work to obtain the needed additional full-time equivalent resources in FY 2016 and FY 2017 by reprogramming within the business line from military radium, and by seeking additional contract dollars. Resources for FY 2018 and beyond will be addressed through the Planning, Budget, and Performance Management process. A more detailed breakdown of estimated resources and a schedule for performing initial scoping surveys is provided in Enclosure 5, "Resources and Schedule," which is non-public.

CONCLUSIONS:

The staff has completed an effort to identify sites in non-Agreement States with potential radium contamination resulting from historical radium use. Based on the results of this effort, the NRC staff is currently building the programmatic infrastructure for future NRC site visits, scoping surveys, and outreach strategies to determine the status of these sites. After the programmatic infrastructure is in place, the NRC staff intends to begin outreach, initial site visits, and scoping survey activities. The NRC staff is also developing a Commission paper regarding policy issues associated with the regulation of these sites, as discussed in Enclosure 3.

The staff recommends that this paper be withheld from public release until comprehensive outreach to site owners is completed due to the pre-decisional nature of the topics discussed, as further interactions with the States on these sites may eliminate the need for NRC follow-up at some sites. Accordingly, the staff recommends Enclosure 2 remain non-public, since the final list of sites for NRC follow-up may be a smaller subset of sites. The staff will inform SECY when outreach to site owners is completed.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

Scott W. Moore, Acting Director
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. Prioritization Criteria
2. List of Non-Military Sites with Potential Radium Contamination
3. Near-Term Actions to Prepare for Future Scoping Surveys
4. Plan for Outreach
5. Resources and Schedule

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Prioritization Criteria

The U.S. Nuclear Regulatory Commission (NRC) staff developed this prioritization scheme based on limited information for each site. When the NRC staff follows up on these sites, by performing outreach to the non-Agreement States, site visits, and scoping surveys, the prioritization scheme may be revised. Further, site information regarding current residual contamination levels will not be available until the NRC is able to perform an initial scoping survey at these sites. Acknowledging this absence of detailed site information, the staff has developed a simple approach for prioritizing sites. This approach utilizes available basic site information and categorizes sites into one of four Tiers, with Tier 1 sites having the highest priority and presenting the largest potential risk to public health and safety.

This prioritization methodology was developed to allow for flexibility in classifying sites based on the available information for each site. Tier 1, 2, and 3 sites are those sites where the NRC has, based on the results of Oak Ridge National Laboratory's (ORNL) study, confirmed that radium was historically present at the site. In general, sites identified as Tier 1 sites potentially have the highest levels of human exposure to radium contamination (and thus risk); Tier 2 sites have a lower potential for human exposure to radium contamination than Tier 1 sites; and Tier 3 sites are unlikely to have the potential for human exposures to radium contamination due to strong access controls. Sites in Tier 4 are sites where the NRC, based on the results of ORNL's study, suspects but was not able to confirm from publically available documents that radium was historically present. These Tiers and the number of sites identified in each Tier are described in more detail below.

Tier 1 - Radium is confirmed to have been present at the site based upon historical documentation that radium was present and/or survey data. Site access is not controlled. Tier 1 sites may consist of one or more buildings that are potentially contaminated by radium. Some Tier 1 sites may also consist of soil that is potentially contaminated by radium. The site is occupied or occupancy is unknown but is frequented by visitors. Nineteen Tier 1 sites have been identified.

Tier 2 - Radium is confirmed to have been present at the site based upon historical documentation that radium was present and/or survey data. Site access is weakly controlled (e.g., fences are in place, but there are indications of intrusion). Tier 2 sites may consist of one or more buildings that are potentially contaminated by radium. Tier 2 sites may also consist of soil that is potentially contaminated by radium. The site is neither occupied nor frequented by visitors. Two Tier 2 sites have been identified.

Tier 3 - Radium is confirmed to have been present at the site based upon historical documentation that radium was present and/or survey data. Site access is strongly controlled (e.g., entrances are secured with no signs of intrusion). No Tier 3 sites have been identified.

Tier 4 - Historic radium use at the site has not been confirmed by historical records and/or survey data, but the historical presence of radium is suspected based on a description of past site activities. It is suspected that radium was present at these sites because:

- Other items (e.g., items that contain the word “radium”) that may have contained radium were manufactured at the site;
- Aircraft gauges and flight instruments that may have contained radium were manufactured or repaired at the site; or
- Large quantities of items that may contain radium, such as WWII-era airplane gauges, clocks, switches, meters, indicators, controls, and compasses were stored at the site (likely in quantities above the NRC’s general licensing criteria in Title 10 of the *Code of Federal Regulations* Part 31.12).

Eight Tier 4 sites have been identified.

Excluded Sites:

The NRC staff excluded sites with a current NRC license, sites where the NRC does not have jurisdiction, and sites where cleanup has already been completed, or where cleanup is or will be addressed under another program (either under NRC or other oversight, such as the Formerly Utilized Sites Remedial Action Program).

List of Non-Military Sites with Potential Radium Contamination

Number	Name	NRC Priority Ranking	Town/City	State
1	Ansonia Electric	Tier 1	Ansonia	CT
2	Arrow Electric	Tier 1	Hartford	CT
3	Battle Creek Sanitarium	Tier 1	Battle Creek	MI
4	Benrus Clock Company	Tier 1	Waterbury	CT
5	Billings Army Navy	Tier 1	Billings	MT
6	Bryant Electric Company	Tier 1	Bridgeport	CT
7	CT Dump Site	Tier 1	Bristol	CT
8	CT Radium Drums Site	Tier 1	Unknown ¹	CT
9	Evansville Radium Institute	Tier 1	Evansville	IN
10	Hart Hegeman	Tier 1	Hartford	CT
11	Indiana Radium Institute	Tier 1	Indianapolis	IN
12	Ingraham	Tier 1	Bristol	CT
13	New Haven	Tier 1	New Haven	CT
14	Novelty Manufacturing Company	Tier 1	Jackson	MI
15	Sessions Clock Company	Tier 1	Bristol	CT
16	Seth Thomas	Tier 1	Thomaston	CT
17	South Bend Watch	Tier 1	South Bend	IN
18	Waterbury Clock Company	Tier 1	Waterbury	CT
19	William L. Gilbert Clock Corporation	Tier 1	Winsted	CT
20	Harvey-Hubbell	Tier 2	Bridgeport	CT
21	Lux Clock Company	Tier 2	Waterbury	CT
22	Aerospace Innovations	Tier 4	Livonia	MI
23	Burton Aviation	Tier 4	Marlette	MI
24	Hangermates, LLC	Tier 4	Lansing	MI
25	Metro Aircraft Instruments	Tier 4	Waterford	MI
26	Military Truck Salvage Yard	Tier 4	Anchorage	AK
27	Precision Dial Company	Tier 4	Kalamazoo	MI
28	Radium Dye Company	Tier 4	Kansas City	MO
29	War Dog Militaria	Tier 4	Florence	MT

Complete site summaries for these sites are available in the Agencywide Documents Access and Management System at ML16015A020.

¹ Radium-contaminated waste in four 55-gallon steel barrels was transferred to US Ecology, Inc. for land burial in 2001. The site in question is where the waste originated. Files provided by the State of Connecticut are incomplete and do not contain the specific location in the State.

Near-Term U.S. Nuclear Regulatory Commission Staff Actions to Prepare for Future Scoping Surveys at Sites

The staff is currently taking the following actions to build programmatic infrastructure.

1. Preparing a Temporary Instruction (TI)
 - The U.S. Nuclear Regulatory Commission (NRC) staff is preparing a TI for performing initial site visits and scoping surveys at the sites identified with potential radium contamination resulting from historical radium use. Staff has reviewed a previous TI used for the formerly licensed sites program, and intends to update it for current survey practices and the current scope. The NRC headquarters and regional staff has formed a working group to update the TI for this radium effort. Initial site visits will determine if there are any immediate health and safety concerns and aid in developing scoping survey plans. Scoping surveys will help determine if a site has historic radium contamination, and if more characterization and remediation is needed. Subsequent initial dose assessments will be used to estimate risk and determine whether or not controls are needed to address health and safety concerns.
2. Preparing for outreach to the non-Agreement States and local governments
 - The NRC headquarters and regional staff (including staff from the Office of Public Affairs) has formed a working group specifically to develop tools for non-Agreement State and Local Government outreach. A radium communications plan and generic site outreach plan has been developed, with input from the working group. Site-specific tools and outreach strategies are currently being planned.

The staff is currently planning the following future outreach and scoping survey activities.

1. Conducting outreach to the non-Agreement States and local governments
2. Obtaining permission from site owners and conducting initial site visits and scoping surveys
 - If an owner refuses to allow the NRC permission to survey, the NRC is limited in its ability to follow-up because it is unknown if the owner possesses Atomic Energy Act material. The NRC will engage the State and local governments to pursue access under their authority.
3. Conducting initial dose assessments of scoping survey results
 - Informing appropriate parties of results and implementing immediate controls, if necessary.

- Providing the Commission with the results of surveys, dose assessments, and controls that the staff has worked to put in place, as appropriate.

The staff is currently developing a Commission paper regarding policy issues.

1. In the process of identifying sites with potential radium contamination resulting from historical radium use, the NRC staff has identified a number of policy issues that merit Commission consideration. Staff is in the process of drafting a Commission paper on proposals for how to: 1) resolve remediation issues at identified contaminated sites for the long term; and 2) address any outreach or involvement with other Federal agencies regarding proposed remediation activities. Some of the issues that the staff plans to raise in the upcoming Commission paper include:

- Topics from the following discussion from the Naturally-Occurring and Accelerator-Produced Radioactive Material Rule Statements of Consideration:

...the NRC does not intend to require nonlicensed owners of properties that may be contaminated with radium-226 to obtain licenses. If contamination is discovered at a nonlicensed person's facility, such as contaminated buildings or grounds, the NRC will work with the facility owner to perform decommissioning of the site. If the site presents a significant threat to the public health and safety, the NRC may order the owner to obtain a license and to perform decommissioning of the site. In addition, the NRC may seek assistance from EPA to consider listing the site on EPA's National Priority List and clean up the site under the CERCLA or Superfund Program.

- Considerations for sites with funding difficulties.

Plan for Outreach to Non-Agreement States

Steps:

1. Perform initial State government outreach to inform them of:
 - the U.S. Nuclear Regulatory Commission's (NRC) upcoming State Tribal Communication (STC) Letter;
 - the potential for radium contamination in their State;
 - the NRC's path forward; and
 - the NRC's plan to coordinate messaging with the State.

Vehicle: Meetings or teleconferences coordinated by the Regional State Agreement Officers (RSAO) and Regional State Liaison Officers (RSLO)

Tools developed by staff:

- Responses to anticipated questions;
- Backgrounder on the NRC's regulatory jurisdiction over radium;
- The NRC media talking points; and
- Talking points for RSLOs during State interactions.

2. Send STC Letter
 - Hold discussions with States regarding past State remediation activities and local outreach (e.g., obtaining information regarding which local government officials to contact).

Vehicle: STC Letter and teleconferences coordinated by the RSAOs and RSLOs

Tools developed by staff:

- A series of Radium Blog Posts. These tools have been shared with the NRC's Office of Congressional Affairs (OCA) staff in case of Congressional interest.

3. Perform initial local government (i.e., appropriate county and city authorities) outreach
 - The NRC will share relevant information with local officials.

Vehicle: Meetings and/or teleconferences coordinated by the RSAOs and RSLOs

Tools to be developed by staff:

- Talking points, which include State input, for outreach to local government authorities; and
- Template letter to site owners.

4. Send letters to site owners requesting site access and follow-up discussions about information needed to plan the site scoping/screening survey

Vehicle: Site specific letters, telephone calls to site owners, and initial site visits

Tools to be developed by staff:

- The NRC press release;
- Site specific letters based on final template letter; and
- Talking points for telephone calls to site owners.

5. The NRC Regions (and contractors) plan and perform initial site visits at all identified sites. Site scoping surveys will begin after initial site visits are completed.

Vehicle: Site specific scoping survey plan

Tools to be developed by staff:

- Site specific talking points.

6. The NRC Headquarters staff will perform initial dose assessments using survey results.

7. NRC outreach to site owner and local community on the results of the dose assessment
 - Publish announcements of public meetings
 - Hold public meetings near the site
 - Public meetings are planned for the first few sites. Staff may limit the use of initial public meetings after lessons-learned from public reaction to the first few sites.

Vehicle: Public meetings and letters to site owners

Tools to be developed by staff:

- Site specific talking points;
- Presentations for public meetings; and
- Additional press releases or blog posts.

8. If the NRC confirms doses above 25 millirems per year at any site for current or reasonably foreseeable future uses, the NRC will initiate the enforcement process to ensure protection of public health and safety, as necessary.

Note: For steps 1, 2, 3, 4, 5, and 7, key messages and information will be customized for each specific interaction. To ensure coordination with OCA, Office of Nuclear Material Safety and Safeguards staff will share the tools developed for each communications step with OCA staff.

Resources and Schedule

Resources

Some, but not all of the forecasted resources needed for the project management, inspection and performance assessment activities for the historical radium site identification effort are included in the fiscal year (FY) 2016 Enacted budget and the FY 2017 Congressional Budget Justification (CBJ) under the Decommissioning and Low-Level Waste business line. The FY 2016 Enacted budget includes \$30K and 3.0 Full-Time Equivalents (FTE), and the FY 2017 CBJ includes \$30K and 3.0 FTE. As discussed below, additional resources are needed for the U.S. Nuclear Regulatory Commission (NRC) staff's planned approach for performing site visits and scoping surveys at identified sites. Staff will work to obtain the needed additional FTE resources in FY 2016 and FY 2017 by reprogramming within the business line from military radium, and by seeking additional contract dollars. The impact from reprogramming resources from military radium under the Decommissioning Licensing Actions Product is expected to be a reduction in the number of military radium sites where the NRC can perform monitoring activities. This reduction in resources for military radium is acceptable due to the small number of FTE needed in FY 2016 and FY 2017, and the fact that finalizing the Memorandum of Understanding with the military has taken longer than initially planned. The NRC staff will be seeking contractor support to perform scoping surveys based on the availability of contract dollars. In FY 2016, staff will be seeking additional contract dollars from within the Office of Nuclear Material Safety and Safeguards (NMSS), and in FY 2017, staff will seek to obtain additional funding through the FY 2017 shortfall list. Future resource needs in FY 2018 and FY 2019 will be addressed through the Planning, Budgeting, and Performance Management process.

Initial site visits, followed by scoping surveys, are anticipated to begin in the summer of 2016 and take 3 years to complete (through the summer of 2019). As described below, it is estimated that additional resources will be needed to complete initial site visits and scoping surveys. If resources are not available, this work will take longer than estimated. Table 1 summarizes the budgeted and unbudgeted resources.

- Total resources of 3.2 FTE and \$78K dollars are estimated to be needed in FY 2016 to perform initial site visits. This represents an additional need of 0.2 FTE and \$48K.
- Total resources of 3.8 FTE and \$318K dollars are estimated to be needed in FY 2017 to perform scoping surveys. This represents an additional need of 0.8 FTE and \$288K.

█ [REDACTED]

█ [REDACTED]

This cost is divided into two main categories: 1) programmatic infrastructure costs; and 2) costs to perform initial site visits and scoping surveys. It will not be known how many sites will need remediation, if any, until the scoping surveys are completed, thus those costs to the NRC cannot be fully estimated at this time.

- The resource estimates for programmatic infrastructure costs include staff procedure development, contractor support costs, decommissioning project management, responding to information requests and resolving policy issues, and outreach to States, site owners, and other stakeholders.
- The resource estimates for performing initial site visits and scoping surveys include travel costs for the NRC staff to accompany contractors, contractor support costs, performing the surveys and subsequent dose assessments, pre-planning and survey report generation, and working to implement immediate controls, if necessary. If the NRC inspectors are unavailable, contractors will perform the scoping surveys under NRC oversight.

Schedule for Performing Initial Site Visits and Scoping Surveys

Staff is currently drafting a Temporary Instruction for the site visits and scoping surveys of identified sites, and intends to have it completed by summer 2016.

Staff intends to begin outreach activities in anticipation of performing future site visits and scoping surveys in the near term. This includes beginning outreach to non-Agreement States in March 2016 to gather more information about the sites identified by NRC. After completing initial non-Agreement State outreach, staff intends to begin contacting site owners in April and May 2016 to schedule initial site visits.

As part of planning for each site specific scoping survey, staff plans to perform site visits in advance of scoping surveys to determine if there are any immediate public health and safety concerns at each site, and obtain information needed to develop a site specific scoping plan. Staff anticipates beginning initial site visits by the summer of 2016, and we have a goal to complete all initial site visits no later than the end of FY 2016. This assumes cooperative site owners.

Staff anticipates beginning scoping survey activities after completion of the site visits for all sites, and intends to complete all scoping surveys by the end of summer 2019. The purpose of the scoping survey is to determine if the site meets NRC standards for unrestricted use. Details on how site visits and scoping surveys will be performed are included in the Temporary Instruction. The sites will be prioritized for scoping surveys starting with Tier 1, based on Regional staff availability. This schedule is contingent on obtaining needed resources and the availability of States (if they are interested in being a partner in this effort).

Table 1: Resources

Path Forward	Business Line	Product Line	Product	Office	Division	FY 2016 President's Budget		FY 2016 Unbudgeted		FY 2017 Requested Budget		FY 2017 Unbudgeted	
						\$K	FTE	\$K	FTE	\$K	FTE	\$K	FTE
Begin Scoping Surveys and Outreach to States and Site Owners for Commercial Radium	Decommissioning and Low-Level Waste (LLW)	Licensing	Decommissioning Licensing Actions	NMSS	DUWP	\$30	2.5	\$38	0.2	\$30	2.5	\$248	0.7
Begin Scoping Surveys and Outreach to States and Site Owners for Commercial Radium	Decommissioning and LLW	Oversight	Inspection	NMSS	DUWP	\$0	0.5	\$10	0.0	\$0	0.5	\$40	0.1
Fiscal Year Total						\$30	3.0	\$48	0.2	\$30	3.0	\$288	0.8
Total Resources						\$30	3.0	\$48	0.2	\$30	3.0	\$288	0.8

Note: Resource estimates may change after further discussions with States and the level of cooperation from site owners is determined. Costs for contractor support will be finalized after a contract is awarded.