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

November 24, 2014

Steve Harrison, Director
Office of Radiological Health
Virginia Department of Health
James Madison Building
109 Governor Street, Room 736
Richmond, VA 23219

Dear Mr. Harrison:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the evaluation of Agreement State programs. Enclosed for your review is the draft IMPEP report that documents the results of the Agreement State review held in Virginia on November 3–7, 2014. The review team's preliminary findings were discussed with David Trump, M.D., Deputy Commissioner for Public Health and Preparedness, Alvie Edwards, Director of Internal Audit for the Virginia Department of Health, Michael Welling, Radioactive Materials Program Director, and you on the last day of the review. The review team's proposed recommendations are that the Virginia Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program.

The NRC conducts periodic reviews of Agreement State programs to ensure that public health and safety are adequately protected from the potential hazards associated with the use of radioactive materials and that Agreement State programs are compatible with the NRC's program. The process, titled IMPEP, employs a team of NRC and Agreement State staff to assess Agreement State and the NRC regional radioactive materials programs. All reviews use common criteria in the assessment and place primary emphasis on performance. One additional area applicable to your program has been identified as a non-common performance indicator and is also addressed in the assessment. The final determination of adequacy and compatibility of each program, based on the review team's report, is made by a Management Review Board (MRB) composed of NRC managers and an Agreement State program manager, who serves as a liaison to the MRB.

In accordance with procedures for implementation of IMPEP, we are providing you with a copy of the review team's draft report for your review and comment prior to submitting the report to the MRB. Comments are requested within 4 weeks from your receipt of this letter. This schedule will permit the issuance of the final report in a timely manner that will be responsive to your needs.

The team will review your response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. Coordinating with your staff, I scheduled the Virginia MRB meeting for January 15, 2015, from 1:00 p.m. - 4:00 p.m. EST. The NRC will provide invitational travel for you or your designee to attend the MRB meeting at NRC Headquarters in Rockville,

Maryland. The NRC has video conferencing capability if it is more convenient for the Commonwealth to participate through this medium. Please contact me if you desire to establish a video conference for the meeting.

If you have any questions regarding the enclosed report, please contact me at (301) 415-2598.

Thank you for your cooperation.

Sincerely,

/RA/

Duncan White, Chief
Agreement State Programs Branch
Division of Materials Safety, State, Tribal,
and Rulemaking Programs
Office of Nuclear Material Safety
and Safeguards

Enclosure:
Draft Virginia IMPEP Report

cc: David Trump, M.D.
Chief Deputy Director

Alvie Edwards, Director
Internal Audit

Michael Welling, Assistant Director
Radioactive Materials Program

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE VIRGINIA AGREEMENT STATE PROGRAM

NOVEMBER 3–7, 2014

DRAFT REPORT

Enclosure

EXECUTIVE SUMMARY

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Virginia Agreement State Program. The review was conducted during the period of November 3–7, 2014, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Ohio.

Based on the results of this review, the review team recommends that Virginia's performance be found satisfactory, but needs improvement for the indicator Status of the Materials Inspection Program, and satisfactory for the remaining indicators reviewed.

The review team found that the recommendation from the 2010 IMPEP review regarding the use of qualification journals and the tracking of training and qualification of the staff was addressed by the Program and can be closed.

The review team recommends that the Virginia Agreement State Program be found adequate to protect public health and safety and is compatible with the NRC's program. The review team recommends that a periodic meeting be held in 2 years and that the next IMPEP review take place in approximately 4 years.

1.0 INTRODUCTION

This report presents the results of the review of the Virginia Agreement State Program. The review was conducted during the period of November 3-7, 2014, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Ohio. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of Final General Statement of Policy," published in the *Federal Register* on October 16, 1997, and NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated February 26, 2004. Preliminary results of the review, which covered the period of November 5, 2010, to November 7, 2014, were discussed with Virginia managers on the last day of the review.

[A paragraph on the results of the Management Review Board (MRB) meeting will be included in the final report.]

The Virginia Agreement State Program is administered by the Radioactive Materials Program (the Program), in the Office of Radiological Health (the Office). Organization charts for the Commonwealth, the Office, and the Program are included as Appendix B.

At the time of the review, the Virginia Agreement State Program regulated 401 specific licenses authorizing byproduct, source, and certain special nuclear materials. The review focused on the radioactive materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the Commonwealth of Virginia.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to the Program on July 24, 2014. The Program provided its response to the questionnaire on October 10, 2014. A publicly available version of the questionnaire response can be found in NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML14289A284.

The review team's general approach for conduct of this review consisted of (1) examination of the Program's response to the questionnaire, (2) review of applicable Virginia statutes and regulations, (3) analysis of quantitative information from the Program's databases, (4) technical review of selected regulatory actions, (5) field accompaniments of five inspectors, and (6) interviews with staff and managers. The review team evaluated the information gathered against the established criteria for each common and the applicable non-common performance indicator and made a preliminary assessment of the Virginia Agreement State Program's performance.

Section 2.0 of this report covers the Commonwealth's actions in response to the open recommendation from the previous review. Results of the current review of the common performance indicators are presented in Section 3.0. Section 4.0 details the results of the review of the applicable non-common performance indicators; and, Section 5.0 summarizes the review team's findings.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on November 5, 2010, the review team made one recommendation regarding the Virginia Agreement State Program's performance. The status of the recommendation is as follows:

"The review team recommends that the Commonwealth implement, use, and update the licensing and inspection qualification journals for each staff member. (Section 2.1)"

Status: Qualification journals are provided as a reference document to each technical staff member undergoing the qualification process. Licensing and inspection qualification training, including on the job training, and prior experience are tracked in a database, which is maintained by the Program Director. All technical staff has "read only" access to the database to ensure the information is accurate and the staff members are aware of their qualification status. The review team recommends that this recommendation be closed.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review NRC Regional and Agreement State radioactive materials programs. These indicators are (1) Technical Staffing and Training, (2) Status of Materials Inspection Program, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

3.1 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Program's staffing level and staff turnover, as well as the technical qualifications and training histories of the staff. To evaluate these issues, the review team examined the Program's questionnaire response relative to this indicator, interviewed managers and staff, reviewed job descriptions and training records, and considered any workload backlogs.

The Virginia Agreement State Program is composed of the Program Director, five Radiation Safety Specialists, and two Administrative Assistants. Three Radiation Safety Specialists are located in the main office in Richmond, and the other two telework from Bristol and Yorktown. Having two of the Radiation Safety Specialists work remotely allows program coverage of the entire Commonwealth on short notice, if required. Each Radiation Safety Specialist has at least a bachelor's degree in a physical or life science and has several years of professional experience in radiation protection. Technical staff conducts inspections, performs licensing actions, and responds to incidents and allegations based on individual qualifications. Technical staff also performs emergency response duties as necessary. Based on information provided by the Program, the review team estimated that the Program expends approximately 6.0 full-time equivalents (FTE), including Program management, to administer the Agreement State program.

During the review period, no technical staff or managers left the Program. One Radiation Safety Specialist joined the Program in March 2012 as a contractor and became a full-time employee in August 2013. This employee is currently undergoing qualification training. Another Radiation Safety Specialist, who was hired during the previous review period, was undergoing qualification

training during 2011 and 2012. During this time, the Program experienced a backlog in inspections due, in part, to having a shortage of qualified staff to complete inspections within the required timeframe. This backlog is discussed in more detail in Section 3.2, Status of Materials Inspection Program. The backlog was corrected after one of the two new Radiation Safety Specialists was fully qualified.

At the time of the review, the only vacancy in the Program was for an Administrative Assistant position. Since 2010, this position has been filled three times and has now been vacant since September 2014. The Office is proposing to senior management that the position be converted from a contractor to a full-time employee. The review team noted that the Administrative Assistant's duties have been temporarily absorbed by the Program Manager and various technical staff members. The review team concluded that the vacancy does not have a major impact on the day-to-day operations of the Agreement State program.

The Program has a documented training plan for technical staff that is consistent with the requirements in the NRC/Organization of Agreement States Training Working Group Report and NRC's Inspection Manual Chapter (IMC) 1248, "Formal Qualifications Program for Federal and State Material and Environmental Management Programs." The Program uses on-the-job training, such as inspector accompaniments, to supplement formal coursework. Staff members are typically assigned increasingly complex duties as they progress through the qualification process. Staff members are authorized to perform regulatory duties independently after demonstrating competency. In the Commonwealth's application to become an Agreement State, the Commonwealth submitted and committed to using qualification journals for each of its staff members. Currently the qualification journals are used as a reference document. The Program Director tracks each staff member's training and licensing and inspection activities electronically in the RAM database. Staff members have "read only" access to the database and work with the Program Director to ensure the training and qualification information in the tracking system is accurate and current.

The review team noted that the Program managers encourage and support training opportunities, based on program needs. The review team concluded that the Program's staffing and training is adequate to carry out its regulatory duties.

Based on the IMPEP evaluation criteria, the review team recommends that Virginia's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

3.2 Status of Materials Inspection Program

The review team focused on five factors while reviewing this indicator: inspection frequency, overdue inspections, initial inspections of new licenses, timely issuance of inspection findings to licensees, and performance of reciprocity inspections. The review team's evaluation was based on the Program's questionnaire response relative to this indicator, data gathered from the Program's database, examination of completed inspection casework, and interviews with Program managers and staff members.

The review team verified that Virginia's inspection frequencies for all types of radioactive material licenses are at least the same frequency as NRC's inspection frequencies, listed in IMC 2800, "Materials Inspection Program."

The Program conducted a total of 291 inspections of high priority (Priority 1, 2, and 3) licensees and 65 initial inspections during the review period. Of the 291 high priority inspections, the review team determined that 37 inspections were completed overdue by more than 25 percent of the inspection frequency prescribed in IMC 2800, and that one high priority inspection was overdue at the time of the review. Of the 65 initial inspections, the review team determined that 22 inspections were completed more than 12 months after license issuance and that no initial inspections were overdue at the time of the review. Overall, the review team calculated that the Program performed 16.8 percent of its inspections overdue during the review period.

The Program had lost two inspection personnel before the previous review. In order to fill these positions, one individual had been hired before the previous review and one was hired soon after the review. Because these two individuals took time to become fully trained, the Program was unable to perform all inspections before they became overdue. Once the Program fell behind, it acted to minimize the number of overdue inspections. Program management prioritized inspections, first performing inspections that would soon become overdue, then routine inspections that were already overdue, then initial inspections that were already overdue. The Program prioritized routine inspections over initial inspections because most of the routine inspections were of high-priority licensees whereas most of the initial inspections were of low-priority licensees. At the time of the review, the Program had reduced the number of overdue inspections to one routine inspection.

The review team evaluated the Program's timeliness of issuance of inspection findings. The Program has a goal of issuing inspection correspondence within 30 days of the final date of the inspection. The review team determined that the majority of inspection reports, significantly more than 90 percent, were issued within the 30-day goal.

During the review period, the Program performed more than the 20 percent requirement of candidate licensees operating under reciprocity each year as described in IMC 1220 "Processing of NRC Form 241 and Inspection of Agreement State Licensees Operating Under 10 CFR 150.20". The percentages for each calendar year ranged from 21 to 54 percent.

Based on the IMPEP evaluation criteria, the review team recommends that Virginia's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory but needs improvement.

3.3 Technical Quality of Inspections

The review team evaluated 26 inspection reports that included enforcement documentation and letters to licensees, and interviewed the inspectors who were responsible for radioactive materials inspections conducted during the review period. The casework examined included a cross-section of inspections conducted by five current inspectors and covered a wide variety of inspection types involving initial, routine, and special inspections. The casework included inspection of various types of programs including: academic, broad scope academic, broad scope medical, medical private practice, medical institution, high dose-rate remote after-loaders, gamma knives, nuclear pharmacies, industrial radiography, and manufacturing and distribution licensees. Appendix C lists the inspection casework files reviewed.

Based on the evaluation of casework, the review team determined that inspection reports were

thorough, complete, consistent, and of high quality with sufficient documentation to ensure that licensees' performances with respect to health, safety, and security were acceptable. Inspection report documentation supported violations, recommendations made to licensees, unresolved safety issues, and discussions held with licensees during exit interviews. The review team also evaluated the Program's handling and storing of sensitive documents. The review team determined that documents containing sensitive and security-related information were appropriately protected, and maintained in a manner to limit access. The review team found that outgoing correspondence was marked, as appropriate.

The Program has a policy to accompany all staff performing radioactive materials inspections on an annual basis. The review team verified that all qualified inspectors were accompanied by the Program Manager on multiple occasions over the review period. Since 2011, all inspectors have been accompanied annually. The review team noted that during 2011, two of the longer term home based staff members were not accompanied. This occurred during a time when the Program was in a training mode due to staff losses that occurred just prior to the previous review. The Program prioritized activities and these accompaniments were deferred. Both inspectors were accompanied prior to 2011 and subsequently with no issues noted.

The review team accompanied five of the Program's inspectors in October 2014. The inspectors conducted inspections at an industrial radiography licensee, a gamma knife licensee, and a broad scope medical and academic licensee. The inspector accompaniments are listed in Appendix C. The inspectors demonstrated performance-based inspection techniques and knowledge of the regulations. The inspectors were well trained, prepared for the inspections, and thorough in their audits of the licensees' radiation safety and security programs. The inspectors conducted interviews with appropriate personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. The inspectors held entrance and exit meetings with the appropriate level of licensee management. The review team determined that the inspections were adequate to assess radiological health, safety, and security at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommends that Virginia's performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed license reviewers for 20 specific licensing actions. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequacy of facilities and equipment, adherence to good health physics practices, financial assurance, operating and emergency procedures, appropriateness of license conditions, and overall technical quality. The casework was also reviewed for timeliness, use of appropriate deficiency letters and cover letters, reference to appropriate regulations, supporting documentation, consideration of enforcement history, pre-licensing visits, peer/supervisory review, and proper signatures. The licenses are also clearly marked to document *Official Use Only-Security Related Information* as appropriate.

The licensing casework was selected to provide a representative sample of licensing actions

completed during the initial review period. Licensing actions selected for evaluation included new licenses, renewals, decommissioning or termination actions, and amendments. Files reviewed included a cross-section of license types, including: medical diagnostic and therapy, brachytherapy, industrial radiography, research and development, nuclear pharmacy, gauges, and manufacturers. The casework sample represented work from each of the license reviewers. A listing of the licensing casework reviewed is provided in Appendix D.

All licensing actions are initially entered into the Bureau's computer tracking system called RAM 2000 (a Microsoft Access based program). The licensing actions are uploaded to the RAM 2000 system so that information is readily available to the license reviewers. License reviewers use checklists and boilerplate licenses specific to the type of licensing actions to ensure consistency in licenses. The Program enters information into RAM 2000 which documents license number, staff assignment, type of license action, the date received, and final quality assurance review date. The final quality assurance review is performed by the Program Manager, who signs each licensing action.

Based on the casework evaluated, the review team concluded that the licensing actions were of high quality and consistent with the NUREG-1556 guidance documents, the Commonwealth's regulations, and good health physics practices. The review team attributed the consistent use of templates and quality assurance reviews to the overall quality noted in the casework reviews.

The Program performs pre-licensing checks of all new applicants. The Program's methods incorporate the essential elements of NRC's revised pre-licensing guidance to verify that the applicant will use requested radioactive materials as intended. The Program checks applicants without a known radioactive materials license from another agency against records with the State of Virginia Corporation Office for proper business registration. In addition, the Program uses various on-line search mechanisms and interagency communications to verify the identity of individuals. If a pre-licensing visit is necessary, each applicant is subject to an on-site evaluation of their radiation safety and security programs prior to receipt of the initial license.

Based on the IMPEP evaluation criteria, the review team recommends that Virginia's performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Program's actions in responding to incidents and allegations, the review team examined the Program's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Virginia in the Nuclear Material Events Database (NMED) against those contained in the Program's files, and evaluated the casework for 14 reported radioactive materials incidents. A listing of the casework examined, with case-specific comments, can be found in Appendix E. The review team also evaluated the Program's response to five allegations involving radioactive materials. The NRC referred two allegations to the Commonwealth during the review period.

When notified of an incident or an allegation, the Program Manager and staff discuss the initial response and the need for an on-site investigation, based on the safety significance. If an incident meets the reportability thresholds, as established in the Office of Nuclear Material

Safety and Safeguards Procedure SA-300 “Reporting Material Events,” (SA-300) the Program notifies the NRC Headquarters Operations Center and enters the information into NMED, in a prompt manner.

The review team identified 39 radioactive material incidents in NMED for Virginia during the review period. The team found that each event requiring reporting was appropriately reported in accordance with SA-300. The review team found that all non-reportable incidents in NMED were correctly categorized as non-reportable by the Program. The incidents selected for review included medical events, lost radioactive materials, damaged equipment, a leaking source, a contamination event, and a transportation event that were reported to NMED. The review team determined that the Program’s responses to incidents were thorough, complete, and comprehensive in all instances. Initial responses were prompt and well-coordinated, and the level of effort was commensurate with the health and safety significance. For the 14 cases reviewed, the review team determined the Program dispatched inspectors to the site when the possibility of an immediate threat to public health and safety existed.

In evaluating the effectiveness of the Program's response to allegations, the review team evaluated the casework for the five allegations received by the Program during the review period. The review team concluded that the Program consistently took prompt and appropriate action in response to concerns raised. The review team noted that the Program thoroughly documented the investigations and retained all necessary documentation to appropriately close the allegations. The Program notified each alleger of the conclusion of the investigation when the identity of the alleger was known. The review team determined that the Program adequately protected the identity of allegers. Of the two allegations referred to the Program by the NRC, the first one had been reviewed under the Program’s allegation program. The second one concerned activities in another state; the Program was waiting for the other state’s determination before moving forward on the concern.

Based on the IMPEP evaluation criteria, the review team recommends that Virginia’s performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory.

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State Programs: (1) Compatibility Requirements, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste Disposal Program, and (4) Uranium Recovery Program. The NRC’s Agreement with the Commonwealth of Virginia does not relinquish authority to regulate a sealed source and device evaluation program, a low-level radioactive waste disposal program, or a uranium recovery program, so only the first non-common performance indicator was applicable to this review.

4.1 Compatibility Requirements

4.1.1 Legislation

Virginia became an Agreement State on March 31, 2009. Legislative authority to create the program and enter into an Agreement with NRC is granted in the Code of Virginia 32.1-228.1

and 32.1-235. The Department of Health is designated as the Commonwealth's radiation control agency. There have been no changes in legislation affecting the Program over the review period. Virginia regulations are not subject to sunset laws.

4.1.2 Program Elements Required for Compatibility

Virginia's regulations for control of radiation are located in the Virginia Administrative Code, Title 12, Agency 5, Chapter 481, and apply to all persons who receive, possess, use, transfer, own, or acquire any source of radiation. Virginia requires a license for the receipt, possession, use, transfer, ownership, or acquisition, of radioactive material. Virginia also requires the registration of ionizing radiation machine facilities.

The review team evaluated the Program's response to the questionnaire, reviewed the status of regulations required to be adopted by the Commonwealth under the Commission's adequacy and compatibility policy, and verified the adoption of regulations with data obtained from the State Regulation Status Sheet that the Office of Nuclear Material Safety and Safeguards maintains.

Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally binding requirements no later than 3 years after the effective date of NRC's regulations. At the time of this review, Virginia had no overdue regulations. In October 2014, the Program submitted proposed regulations for eight amendments to NRC for review.

The Commonwealth adopts some NRC regulations by reference and uses legally binding requirements such as license conditions as appropriate. Virginia regulations that are adopted by reference "point" to NRC regulations, so that if the NRC modifies a regulation, the change is automatic for the Commonwealth's regulations. If the NRC develops a new regulation section, such as the upcoming 10 CFR Part 37 security requirements rule, or updates regulations that the Commonwealth does not adopt by reference, the Commonwealth must create a new section in their regulations or update their regulations accordingly. The Commonwealth's regulatory process typically takes approximately two years to complete, which includes time for public comment. However, the Commonwealth has a nonstandard regulatory process for" exempt" regulations which the Program can utilize when passing regulations that are necessary to meet the requirements of federal law or regulations. This process allows for regulations to be promulgated within three to six months.

Based on the IMPEP evaluation criteria, the review team recommends that Virginia's performance with respect to the indicator, Compatibility Requirements, be found satisfactory.

5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, the review team found Virginia's performance to be satisfactory, but needs improvement for the indicator Status of the Materials Inspection Program, and satisfactory for the remaining indicators reviewed. The review team closed the one open recommendation and made no new recommendations regarding the performance of the Commonwealth. Overall, the review team recommends that the Virginia Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. Based on the results of the current IMPEP review, the review team recommends that a periodic meeting be held in 2 years and that the next IMPEP review take place in approximately 4 years.

LIST OF APPENDICES

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	**Area of Responsibility**
Randy Erickson, Region IV	Team Leader Technical Quality of Inspections Inspector Accompaniments
Donna Janda, Region I	Technical Staffing and Training Compatibility Requirements Inspector Accompaniments
Geoffrey Warren, Region III	Status of Materials Inspection Program Technical Quality of Incident and Allegation Activities
Charlene Graham, Ohio	Technical Quality of Licensing Actions

APPENDIX B

VIRGINIA ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML14289A180

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1
Licensee: GE Inspection Services — License No.: 760-327-1
Inspection Type: Routine, Special, Announced — Priority: 1
Inspection Date: 10/11/13 — Inspectors: AF, AS

File No.: 2
Licensee: J. Core Drilling — License No.: 059-354
Inspection Type: Routine, Unannounced — Priority: 1
Inspection Date: 8/6/14 — Inspectors: AS, CC

File No.: 3
Licensee: Team Industrial Services — License No.: 700-518-1
Inspection Type: Special, Unannounced — Priority: 1
Inspection Date: 1/7/11 — Inspector: BS

File No.: 4
Licensee: Froehling & Robertson, Inc. — License No.: 760-096-1
Inspection Type: Routine, Announced — Priority: 1
Inspection Date: 5/16/11 — Inspectors: CC, AF

File No.: 5
Licensee: University of Virginia Radiosurgery Center — License No.: 700-521-1
Inspection Type: Routine, Unannounced — Priority: 2
Inspection Date: 10/6–30/14 — Inspector: BS

File No.: 6
Licensee: Virginia Commonwealth University — License No.: 700-521-1
Inspection Type: Routine, Special, Announced — Priority: 2
Inspection Date: 10/7–9/10 — Inspectors: CC, AF, AS

File No.: 7
Licensee: Carolina NDT, Inc. — License No.: 191-502-01
Inspection Type: Routine, Announced — Priority: 1
Inspection Date: 10/6/14 — Inspector: KG

File No.: 8
Licensee: EADS North America — License No.: 059-575-1
Inspection Type: Initial, Announced — Priority: 5
Inspection Date: 7/23/13 — Inspector: CC

File No.: 9
Licensee: JANX Integrity Group License No.: 590-576-1
Inspection Type: Initial, Announced Priority: 1
Inspection Date: 12/11/12 Inspector: KG

File No.: 10
Licensee: Dominion NDT Services, Inc. License No.: 041-527-1
Inspection Type: Initial, Announced Priority: 1
Inspection Date: 11/15/10 Inspectors: CC, AF

File No.: 11
Licensee: Great Lakes Dredge & Dock Company License No.: 710-533-1
Inspection Type: Initial, Announced Priority: 5
Inspection Date: 6/8/11 Inspector: BS

File No.: 12
Licensee: AMEC E&I License No.: NC 032-0082-4
Inspection Type: Reciprocity, Unannounced Priority: 1
Inspection Date: 10/15/13 Inspector: KG

File No.: 13
Licensee: Space Science Services, Inc. License No.: FL 140-2
Inspection Type: Reciprocity, Unannounced Priority: 1
Inspection Dates: 7/24/14 Inspectors: AS, CC

File No.: 14
Licensee: International Isotopes, Inc. License No.: NRC 11-27680-01MD
Inspection Type: Reciprocity, Announced Priority: 5
Inspection Date: 5/10/14 Inspector: CC

File No.: 15
Licensee: Diamond G Inspection License No.: TX L06229
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 10/24/13 Inspector: BS

File No.: 16
Licensee: Virginia Polytechnic Institute and State University License No.: 121-225-1
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 12/6-8/10 Inspector: KG

File No.: 17
Licensee: Pole Brothers Imaging Company, LLC License No.: 069-451-1
Inspection Type: Routine, Unannounced Priority: 1
Inspection Date: 6/11/13 Inspector: MW

File No.: 18
Licensee: Fauquier Hospital License No.: 059-183-1
Inspection Type: Routine, Unannounced Priority: 3
Inspection Date: 9/21/11 Inspector: MW

File No.: 19
Licensee: Cardinal Health Nuclear Pharmacy Services License No.: 760-034-1
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 4/5–6/11 Inspectors: BS, CC

File No.: 20
Licensee: Virginia Cancer Specialists License No.: 600-522-1
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 8/28/12 Inspector: CC

File No.: 21
Licensee: Virginia Institute of Marine Science License No.: 073-221-1
Inspection Type: Routine, Unannounced Priority: 5
Inspection Date: 3/8/12 Inspector: BS

File No.: 22
Licensee: Virginia Military Institute License No.: 678-440-1
Inspection Type: Routine, Announced Priority: 5
Inspection Date: 4/27/11 Inspector: KG

File No.: 23
Licensee: Phillip Morris USA License No.: 760-395-1
Inspection Type: Routine, Unannounced Priority: 5
Inspection Date: 4/18–19/12 Inspectors: AF, AS

File No.: 24
Licensee: Precision Nuclear Diagnostics License No.: 059-456-1
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 12/13/13 Inspector: CC

File No.: 25
Licensee: Amen Clinic, Inc. License No.: 059-009-1
Inspection Type: Routine, Unannounced Priority: 3
Inspection Date: 6/12/13 Inspector: MW

File No.: 26
Licensee: Riverside Tappahannock Hospital License No.: 057-178-1
Inspection Type: Routine, Unannounced Priority: 3
Inspection Date: 5/1/12 Inspectors: AS, CC

INSPECTOR ACCOMPANIMENTS

The following inspector accompaniments were performed prior to the on-site IMPEP review:

Accompaniment No.: 1
Licensee: Carolina NDT, Inc. License No.: 191-502-01
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 10/6/14 Inspector: KG

Accompaniment No.: 2
Licensee: University of Virginia Radiosurgery Center License No.: 700-521-1
Inspection Type: Routine, Unannounced Priority: 2
Inspection Date: 10/6–30/14 Inspector: BS

Accompaniment No.: 3
Licensee: Virginia Commonwealth University License No.: 700-521-1
Inspection Type: Routine, Special, Announced Priority: 2
Inspection Date: 10/7-9/10 Inspectors: CC, AF, AS

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1
Licensee: Virginia State University — License No.: 730-441-1
Type of Action: Termination — Amendment No.: 00
Date Issued: 7/29/11 — License Reviewer: BS

File No.: 2
Licensee: Norfolk State University — License No.: 710-385-1
Type of Action: Termination — Amendment No.: 02
Date Issued: 3/22/13 — License Reviewer: BS

File No.: 3
Licensee: University Nuclear Diagnostics — License No.: 760-603-1
Type of Action: New — Amendment No.: 00
Date Issued: 9/3/14 — License Reviewer: AF

File No.: 4
Licensee: Eastern Virginia Medical School — License No.: 710-080-1
Type of Action: Renewal — Amendment No.: 03
Date Issued: 12/27/12 — License Reviewer: AF

File No.: 5
Licensee: Cumberland River Coal Company — License No.: 195-301-1
Type of Action: Amendment — Amendment No.: 01
Date Issued: 6/25/13 — License Reviewer: AS

File No.: 6
Licensee: Cumberland Resources Corporation — License No.: 195-478-1
Type of Action: Renewal — Amendment No.: 03
Date Issued: 10/6/14 — License Reviewer: AS

File No.: 7
Licensee: Rad Vets, LLC — License No.: 107-601-1
Type of Action: New — Amendment No.: 00
Date Issued: 7/7/14 — License Reviewer: AF

File No.: 8
Licensee: Pro-Inspections — License No.: 145-600-1
Type of Action: New — Amendment No.: 00
Date Issued: 5/2/14 — License Reviewers: CC/AS

File No.: 9
Licensee: Bremco, LLC License No.: 167-550-1
Type of Action: Termination Amendment No.: 01
Date Issued: 6/6/14 License Reviewer: AS

File No.: 10
Licensee: Carilion Clinic License No.: 770-051-1
Type of Action: Amendment Amendment No.: 16
Date Issued: 5/23/14 License Reviewer: AS

File No.: 11
Licensee: Martha Jefferson Hospital License No.: 540-137-1
Type of Action: Renewal Amendment No.: 10
Date Issued: 4/18/14 License Reviewer: AF

File No.: 12
Licensee: Advex Corporation License No.: 650-254-01
Type of Action: Renewal Amendment No.: 02
Date Issued: 4/2/12 License Reviewer: CC

File No.: 13
Licensee: Reston Hospital Center License No.: 059-173-1
Type of Action: Amendment Amendment No.: 07
Date Issued: 9/17/13 License Reviewer: AF

File No.: 14
Licensee: Bon Secours Virginia Health Source, Inc. License No.: 041-404-1
Type of Action: Amendment Amendment No.: 03
Date Issued: 7/1/11 License Reviewer: AF

File No.: 15
Licensee: PetNet Solutions License No.: 540-560-1
Type of Action: New Amendment No.: 00
Date Issued: 6/13/11 License Reviewer: BS

File No.: 16
Licensee: Construction Inspection Services License No.: 107-551-1
Type of Action: Termination Amendment No.: 03
Date Issued: 7/22/13 License Reviewer: AF

File No.: 17
Licensee: Cumberland Resources Corporation License No.: 195-478-1
Type of Action: Renewal Amendment No.: 02
Date Issued: 10/9/13 License Reviewer: AS

File No.: 18
Licensee: Bon Secours Virginia Health Source, Inc. License No.: 041-404-1
Type of Action: Amendment Amendment No.: 07
Date Issued: 4/10/13 License Reviewer: AF

File No.: 19
Licensee: Bon Secours Virginia Health Source, Inc. License No.: 041-404-1
Type of Action: Renewal Amendment No.: 05
Date Issued: 10/8/12 License Reviewer: AF

File No.: 20
Licensee: PetNet Solutions License No.: 540-560-1
Type of Action: Amendment Amendment No.: 02
Date Issued: 7/31/12 License Reviewer: CC

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1
Licensee: Prince William Hospital — License No.: 683-166-1
Date of Incident: 12/13/12 — NMED Log No.: 130115
Investigation Date: 3/8/13 — Type of Incident: Medical Event
Type of Investigation: Phone

File No.: 2
Licensee: Inova Fairfax Hospital — License No.: 610-116-1
Date of Incident: 3/11/14–3/12/14 — NMED Log No.: 140156
Investigation Date: 4/14/14 — Type of Incident: Medical Event
Type of Investigation: Phone

File No.: 3
Licensee: Sentara Hospitals — License No.: 710-189-1
Date of Incident: 5/4/11 — NMED Log No.: 110301
Investigation Date: 6/13/11 — Type of Incident: Medical Event
Type of Investigation: Phone

File No.: 4
Licensee: ECS Mid-Atlantic, LLC — License No.: 770-314-5
Date of Incident: 8/5/13 — NMED Log No.: 130348
Investigation Date: 8/6/13 — Type of Incident: Damage to Equipment
Type of Investigation: Phone

File No.: 5
Licensee: Geotechnical Environmental Testing Solutions, Inc. — License No.: 810-333-1
Date of Incident: 8/8/13 — NMED Log No.: 130355
Investigation Date: 8/12/13–8/14/13 — Type of Incident: Damage to Equipment
Type of Investigation: Site

File No.: 6
Licensee: Honeywell Resins and Chemicals — License No.: 041-341-2
Date of Incident: 5/15/13 — NMED Log No.: 130243
Investigation Date: 5/16/13 — Type of Incident: Damage to Equipment
Type of Investigation: Phone

File No.: 7
Licensee: American Electric Power — License No.: General Licensee
Date of Incident: 8/12/11 — NMED Log No.: 110407
Investigation Date: 8/30/11 — Type of Incident: Damage to Equipment
Type of Investigation: Phone

File No.: 8
Licensee: Virginia Polytechnic Institute
Date of Incident: 6/28/11
Investigation Date: 8/28/11
License No.: 121-225-1
NMED Log No.: 110509
Type of Incident: Leaking Source
Type of Investigation: Phone

File No.: 9
Licensee: Chippenham/Johnston Willis Hospitals
Date of Incident: 6/23/11
Investigation Date: 7/15/11
License No.: 041-058-1
NMED Log No.: 110359
Type of Incident: Contamination Event
Type of Investigation: Phone

File No.: 10
Licensee: Babcock & Wilcox
Date of Incident: 7/31/13
Investigation Date: 8/1/13
License No.: 680-028-1
NMED Log No.: 130337
Type of Incident: Transportation
Type of Investigation: Phone

File No.: 11
Licensee: Carilion Clinic
Date of Incident: 2/27/13
Investigation Date: 2/28/13, 8/13/13–8/29/13
License No.: 770-051-1
NMED Log No.: 130120
Type of Incident: Medical Event
Type of Investigation: Phone, Next Inspection

File No.: 12
Licensee: Carilion Clinic
Date of Incident: 3/15/13
Investigation Date: 3/18/13, 8/13/13–8/29/13
License No.: 770-051-1
NMED Log No.: 130135
Type of Incident: Medical Event
Type of Investigation: Phone, Next Inspection

File No.: 13
Licensee: Froehling & Robertson, Inc
Date of Incident: 9/11/13
Investigation Date: 9/12/13
License No.: 760-096-02
NMED Log No.: 130413
Type of Incident: Lost Radioactive Materials
Type of Investigation: Site

File No.: 14
Licensee: Inova Fairfax Hospital
Date of Incident: 7/30/12
Investigation Date: 7/30/12, 12/16/12–12/17/12
License No.: 610-116-1
NMED Log No.: 120457
Type of Incident: Lost Radioactive Materials
Type of Investigation: Phone, Next Inspection