

July 29, 2010

MEMORANDUM TO: Marc L. Dapas, Acting Regional Administrator  
Region I

FROM: Michael F. Weber */RA/*  
Deputy Executive Director for Materials, Waste,  
Research, State, Tribal, and Compliance Programs  
Office of the Executive Director for Operations

SUBJECT: FINAL REPORT OF THE INTEGRATED MATERIALS  
PERFORMANCE EVALUATION PROGRAM REVIEW OF THE  
REGION I RADIOACTIVE MATERIALS PROGRAM

On July 12, 2010, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report of the U.S. Nuclear Regulatory Commission's Region I radioactive materials program. The MRB found the program adequate to protect public health and safety.

Section 4.0, page 7, of the enclosed final report summarizes the results of the review. The review team made no recommendations in regard to program performance by the Region.

If you have any questions on the report, please contact Joseph DeCicco at (301) 415-7833.

I applaud your staff's efforts during the IMPEP review period and look forward to continued high level performance in the future. I would also like to thank Region I for exemplary support during the time of the team's visit.

Enclosure: Region I Final IMPEP Report

cc: J. Kinneman, Region I

CONTACT: Aaron T. McCraw, FSME/MSSA  
(630) 829-9650

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MEMORANDUM TO MARC L. DAPAS FROM MICHAEL F. WEBER DATED: July 29, 2010

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
REVIEW OF THE REGION I RADIOACTIVE MATERIALS PROGRAM

APRIL 26-30, 2010

**FINAL REPORT**

Enclosure

## 1.0 INTRODUCTION

This report presents the results of the review of the Region I radioactive materials program. The review was conducted during the period of April 26-30, 2010, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of New York. 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 a Final General Statement of Policy," published in the *Federal Register* on October 16, 1997, and NRC Management Directive (MD) 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated February 26, 2004. Preliminary results of the review, which covered the period of April 9, 2005, to April 30, 2010, were discussed with Region I managers on April 30, 2010.

A draft of this report was issued to Region I for factual comment on June 1, 2010. Region I responded by memorandum dated June 17, 2010, from John D. Kinneman, Director, Division of Nuclear Materials Safety (the Division). A copy of the Division's response is included as the Attachment to this report. The Management Review Board (MRB) met on July 12, 2010, to consider the proposed final report. The MRB found the NRC Region I radioactive materials program adequate to protect public health and safety.

The Region I radioactive materials program is administered by the Division, which is headed by the Division Director. The Division Director reports directly to the Regional Administrator. Organization charts for Region I and the Division are included as Appendix B.

At the time of the review, the Region I radioactive materials program regulated more than 950 specific radioactive material licenses. In addition, the Division had inspection responsibility for four power reactors in decommissioning status, five complex materials decommissioning sites, and all independent spent fuel storage installations in Region I.

In preparation for the review, a questionnaire addressing the common performance indicators was sent to Region I on January 14, 2010. The Division provided a response to the questionnaire on April 8, 2010. The Division's response can be found in NRC's Agencywide Documents Access and Management System (ADAMS) using Accession Numbers ML100980430 (memorandum) and ML100980461 (questionnaire response).

The review team's general approach for the conduct of this review consisted of: (1) examination of the Division's response to the questionnaire; (2) analysis of quantitative information from the Region's licensing, inspection, and allegation databases, as well as ADAMS; (3) technical review of selected regulatory actions; (4) field accompaniments of five Region I inspectors; and (5) interviews with staff and managers. The review team evaluated the information that it gathered against the established criteria for each common performance indicator and made a preliminary assessment of the Region I radioactive materials program's performance.

Section 2.0 of this report covers the Region's response to recommendations made during previous reviews. Results of the current review of the common performance indicators are presented in Section 3.0. Section 4.0 summarizes the review team's findings.

## 2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on April 8, 2005, the review team made no recommendations regarding program performance by the Division.

## 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 Division'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 Division's questionnaire response relative to this indicator, interviewed Division managers and staff, interviewed Region I Division of Resource Management staff, and considered any workload backlogs.

The Division is composed of four branches: (1) the Medical Branch, (2) the Commercial and R&D Branch, (3) the Materials Security and Industrial Branch, and (4) the Decommissioning Branch. The Licensing Assistance Team, managed as part of the Decommissioning Branch, consists of a Team Leader and three staff. The Licensing Assistance Team provides administrative and records management support for licensing and inspection activities for the Division. Including non-technical positions, the Division had 42 staff members on board at the time of the review. Funding for technical positions comes from the Nuclear Materials Safety Arena (26.9 full-time equivalents (FTE)) and Security and Incident Response Arena (5.1 FTE).

Since the previous review, the Division's total number of staff positions has decreased by 10, with a corresponding budget change of approximately 7 FTE. This decrease was in parallel with a loss of approximately 1,600 licenses that were transferred to 3 new Agreement States during the review period. Seven new technical staff members were hired into the Division since the last IMPEP review. During the same period, 15 technical staff members departed the program (three were among those hired during that time period). The Division had three technical vacancies at the time of the on-site review. Two positions have been vacant for approximately 1 year, while the third position was vacated just prior to the on-site review. The Division is addressing these vacancies within the constraints of overall Regional FTE levels.

The review team examined the Division's training spreadsheet, sampled some individual inspectors' qualifications, and interviewed managers concerning technical training in accordance with the requirements of Inspection Manual Chapter (IMC) 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguards Program Area." The review team found a good balance of personnel between licensing and inspecting. Technical staff members perform licensing and inspection activities. All staff members in each branch are qualified for the work they perform. Three staff members are in the inspector qualification process, the remainder of the staff being fully qualified inspectors. Two of the three staff in the qualification process are interim-qualified and are expected to complete the process by October

2010. The remaining one will complete the process within the time frame contained in IMC 1246. Of the technical staff members who work on materials and decommissioning licensing issues, 12 have full signature authority, 12 have limited signature authority, and 5 have no signature authority. Except for training purposes, staff members are assigned licensing work for which they have independent signature authority. A senior license reviewer signed out the licenses when an unqualified reviewer reviewed the license for training purposes. The Division staffing level was adequate for its workload.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Region I's performance with respect to the indicator, Technical Staffing and Training, was satisfactory.

### 3.2 Status of Materials Inspection Program

The team focused on five factors in reviewing this indicator: inspection frequency, overdue inspections, initial inspection of new licenses, timely dispatch of inspection findings to licensees, and performance of reciprocity inspections. The evaluation was based on the Division's questionnaire response relative to this indicator, data from NRC's Licensing Tracking System (LTS), examination of completed inspection casework, and interviews with Division managers and staff.

The review team verified that the Division adheres to the inspection priorities prescribed in IMC 2800, "Materials Inspection Program," by cross-checking the inspection frequencies entered in LTS for randomly selected licensees with the IMC 2800 frequencies. The review team found, in all cases, that the inspection frequencies in LTS matched the IMC 2800 inspection frequencies, unless the next inspection date was intentionally reduced by the Division based on licensee performance and in accordance with IMC 2800. The review team verified that Increased Controls inspections were being performed concurrently with routine safety inspections for applicable licensees.

Region I conducted a total of 1,207 inspections of Priority 1, 2, and 3 licensees during the review period. As noted in their response to the questionnaire, the Division identified 35 of these inspections that were conducted overdue by more than 25 percent of the inspection frequency prescribed by IMC 2800. The review team did not identify any inspections that were overdue at the time of the review. The review team found that 10 of the 35 overdue inspections were due to LTS data entry errors. During the review period, the Division instituted changes in Quality Control and monitoring in order to reduce future errors.

The review team also evaluated the Division's timeliness for conducting initial inspections. During the review period, Region I issued 395 new licenses. IMC 2800 requires initial inspections of new licenses to be conducted within 12 months of license issuance. In the questionnaire, the Division self-identified 19 initial inspections that were conducted overdue. The review team verified that there were no overdue initial inspections at the time of the review. Overall, the review team calculated that the Division conducted approximately 3 percent of Priority 1, 2, and 3 and initial inspections overdue during the review period.

The review team evaluated the Division's timeliness for issuing inspection findings during the inspection casework reviews. The Division issued inspection findings to the licensees within 30

days for 55 of the 57 inspection findings reviewed by the team. The two reports were late due to tracking errors.

During the review period, the team determined that the Division completed the required number of reciprocity inspections of candidate licensees for all years covered by the review period, except 2005. IMC 1220, "Processing of NRC Form 241 and Inspection of Agreement State Licensees Operating Under 10 CFR 150.20," requires inspection of at least 20 percent of all candidate reciprocity licensees per calendar year. In 2005, the Division inspected 3 of 19 candidate licensees or 16 percent of candidate licensees. The Division self-identified their being below the 20 percent criteria in 2005 and instituted programmatic changes to correct this issue. After 2005, the Division began requesting their reciprocity licensees to provide dates that the licensee would be available for reciprocity inspection visits. This programmatic change reduced the number of failed inspection attempts, which is not captured by the reciprocity inspections metric. The Division also increased its monitoring of reciprocity activities and was then able to meet or exceed the 20 percent criterion in each of the subsequent calendar years of the review period.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Region I's performance with respect to the indicator, Status of Materials Inspection Program, was satisfactory.

### 3.3 Technical Quality of Inspections

The review team evaluated inspection reports and documentation, enforcement documentation, and interviewed inspectors for 29 inspections that were conducted by 25 different inspectors during the review period. The casework selected included a cross-section of inspection types. These included broad scope medical, high-dose rate remote afterloader (HDR), gamma stereotactic radiosurgery, irradiator, industrial radiography, nuclear pharmacy, brachytherapy, research and development, portable gauge, well-logging, academic broad scope, waste handling/shipping, decommissioning, and medical private practice. Casework also included inspections related to reciprocity, decommissioning, events, and security. Appendix C lists the inspection files reviewed.

Based on the evaluation of casework, the review team determined that inspections covered all aspects of the licensees' radiation safety and security programs. The review team noted that inspection reports were generally 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 reports were complete, with sufficient documentation to support inspection findings, including escalated enforcement when applicable.

While on site, the review team evaluated the Division's handling and storing of sensitive information. The review team determined that documents containing sensitive information were appropriately marked, stored, and protected in accordance with NRC policy. The review team observed outgoing correspondence that was appropriately marked.

The review team determined that a supervisor accompanied all active inspectors at least once per year.



Review team members accompanied five Region I radioactive materials inspectors on nine inspections. The inspector accompaniments were conducted on the following license types: five hospitals, one medical private practice, one industrial radiography site, one research and development broadscope license facility, and one self-shielded irradiator. The accompaniments are identified in Appendix C. Each accompanied inspector demonstrated appropriate inspection methods and exhibited knowledge and understanding of applicable regulations and license conditions. The inspectors were trained, prepared, and thorough in their inspections of the licensees' program. Inspectors used good health physics practices, conducted effective interviews of licensee personnel, and used a performance-based approach. The review team determined that the inspections were adequate to assess radiological health, safety, and security.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Region I's performance with respect to the common indicator, Technical Quality of Inspections, was satisfactory.

### 3.4 Technical Quality of Licensing Actions

The review team examined the casework and interviewed license reviewers for 34 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, security requirements, 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 and data, consideration of enforcement history, pre-licensing visits, peer/supervisory review, and proper signatures.

The review team selected licensing casework that provided a representative sample of licensing actions completed during the review period. Licensing actions selected for evaluation included: 8 new licenses, 6 renewals, 10 amendments, 3 terminations, 4 financial assurance reviews, and 3 decommissioning cases. Casework reviewed included a cross-section of license types: decontamination service, academic broadscope, well logging, HDR, irradiator, self-shielded irradiator, research and development broadscope, gamma stereotactic radiosurgery, mobile medical service, radionuclide production using an accelerator, medical institution broad, decommissioning, medical product distribution, fixed and portable gauges, and source material military munitions testing. A listing of the licensing casework reviewed, with case-specific comments, can be found in Appendix D.

Overall, the team found that the licensing actions were thorough, complete, and consistent, of high quality, and properly addressed health, safety, and security issues. The review team found that documentation for all of the reviewed licensing cases was complete and well documented in ADAMS.

The review team randomly selected five HDR licenses to determine if the licenses had the appropriate sensitivity markings in the header and footer of each page in accordance with NRC policy. All five licenses had the appropriate sensitivity markings on each page. The review team also looked at the possession limits on the license to determine if the Increased Controls,

fingerprinting, and National Source Tracking System requirements were needed based on the authorized quantities on the license.

The review team evaluated the Division's implementation of NRC's financial assurance requirements. The review team looked at 5 of the Division's 12 self-guarantee instruments and determined that all 5 instruments were current as documented by the licensee's most current execution of their annual self test as required by Appendix E of Part 30 of Title 10 of the Code of Federal Regulations, "Energy."

The review team evaluated the Division's implementation of the pre-licensing guidance. The review team noted that the Licensing Assistance Team established an administrative process in which the pre-licensing guidance is automatically added to all licensing actions so the form can be completed during the technical review process. The license reviewers consistently screened cases and used the pre-licensing guidance, as applicable. The review team verified that the Division conducted on-site, pre-licensing visits for each applicant that was identified as an "unknown entity" per the pre-licensing guidance.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Region I's performance with respect to the indicator, Technical Quality of Licensing Actions, was satisfactory.

### 3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Division's actions in responding to incidents and allegations, the review team examined the Division's response to the questionnaire relative to this indicator, evaluated selected incidents in the Nuclear Material Events Database (NMED) in Region I's jurisdiction, and evaluated the casework for 20 radioactive materials incidents. A listing of the casework examined can be found in Appendix E. The review team also evaluated the Region's response to 13 allegations involving radioactive materials.

The incidents selected for review included lost or stolen material, damaged equipment of portable gauges, contamination, leaking source, potential overexposure, medical, transportation, and equipment failure. The review team determined that the Division's responses to incidents were thorough, complete, and comprehensive. Initial responses were prompt and well coordinated, and the level of effort was commensurate with the health and safety significance.

The review team's evaluation of incident casework revealed that all incidents were evaluated quickly for the need for on-site investigations, with several special inspections occurring within a relative short time (a few days to a week after incident notification). For less significant health and safety issues, the Division deferred review of the licensee's corrective actions until the next routine inspection. When appropriate, the Division coordinated radioactive materials incident responses with other NRC offices, as well as with other regulatory jurisdictions, such as Agreement States.

In evaluating the effectiveness of the Region's response to allegations, the review team evaluated the casework for 13 allegations involving radioactive material. The review team concluded that the Region consistently took prompt and appropriate action in response to

concerns raised. The review team determined that the Region adequately protected allegeders' identities. The Region notified the allegeders of the conclusion of their investigation, when possible.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Region I's performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, was satisfactory.

#### 4.0 SUMMARY

As noted in Section 3.0 above, Region I's performance was found satisfactory for all performance indicators reviewed. The review team did not make any recommendations regarding program performance. Overall, the review team recommended, and the MRB agreed, that the Region I radioactive materials program is adequate to protect public health and safety. Based on the results of the current IMPEP review, the review team recommended, and the MRB agreed, that the next full review take place in approximately 4 years.

## LIST OF APPENDIXES AND ATTACHMENT

Appendix A	IMPEP Review Team Members
Appendix B	Region I Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Attachment	June 17, 2010 Memorandum from John D. Kinneman Region I's Response to the Draft Report

## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Joseph DeCicco, FSME	Team Leader Technical Staffing and Training Inspector Accompaniments
Stephen Poy, FSME	Status of Materials Inspection Program
Robert Dansereau, New York	Technical Quality of Inspections
Roberto Torres, Region IV	Technical Quality of Licensing Actions
Candace Clemons-Webb, FSME	Technical Quality of Incidents and Allegation Activities Inspector Accompaniments
Richard Leonardi, Region IV	Inspector Accompaniments

APPENDIX B

REGION I ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML101520101

## APPENDIX C

### INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1		
Licensee: Washington Hospital Center	License Nos.:	08-03604-03 08-03604-05
Inspection Type: Routine		Priority: 2
Inspection Dates: 11/16-18/09		Inspectors: PL, JN
File No.: 2		
Licensee: Concrete Imaging, Inc.	License No.:	19-31213-03
Inspection Type: Special		Priority: 1
Inspection Date: 4/30/08		Inspector: DC
File No.: 3		
Licensee: All Heart Medical Center	License No.:	08-31224-01
Inspection Type: Routine		Priority: 5
Inspection Date: 10/22/07		Inspector: DL
File No.: 4		
Licensee: Pharmalogic WV, Ltd.	License No.:	47-25375-01
Inspection Type: Routine		Priority: 2
Inspection Dates: 8/28/09, 9/2/09		Inspectors: SC, TJ
File No.: 5		
Licensee: Tracewell Services, Inc.	License No.:	47-25480-01
Inspection Type: Routine		Priority: 3
Inspection Date: 10/8/08		Inspector: SL
File No.: 6		
Licensee: Radiac Research	License No.:	31-17528-01
Inspection Type: Routine		Priority: 5
Inspection Date: 7/9/07		Inspector: OMB
File No.: 7		
Licensee: University of Connecticut	License No.:	06-01450-47
Inspection Type: Routine		Priority: 3
Inspection Dates: 1/24-25/08		Inspector: TT
File No.: 8		
Licensee: Baxter Healthcare of Puerto Rico	License No.:	52-21175-01
Inspection Type: Routine		Priority: 2
Inspection Date: 7/27/09		Inspector: MR

File No.: 9

Licensee: Department of the Army  
Inspection Type: Initial  
Inspection Dates: 11/20-21/06

License No.: 29-01022-07  
Priority: 5  
Inspector: BU

File No.: 10

Licensee: Chemtura Corporation  
Inspection Type: Special  
Inspection Date: 8/26/09

License No.: 06-00221-08  
Priority: 5  
Inspector: DL

File No.: 11

Licensee: Applied Technical Services, Inc.  
Inspection Type: Routine  
Inspection Dates: 7/30/08, 11/4-5/08, 1/14/09

License No.: 45-25477-01  
Priority: 1  
Inspectors: CG, JJ

File No.: 12

Licensee: Quality Inspection Services, Inc.  
Inspection Type: Routine  
Inspection Dates: 3/13-14/07, 4/5/07, 8/30/07

License No.: 31-30187-01  
Priority: 1  
Inspector: CG

File No.: 13

Licensee: MedStar Georgetown Medical Center  
Inspection Type: Routine  
Inspection Dates: 8/9/07, 9/4/08

License No.: 08-30577-01  
Priority: 2  
Inspector: PL

File No.: 14

Licensee: Puerto Rico Highway and Transportation  
Authority Materials Testing Lab  
Inspection Type: Routine  
Inspection Dates: 12/15-16/08

License No.: 52-24903-01  
Priority: 5  
Inspector: CG

File No.: 15

Licensee: Megan LLC, dba Fairfield Testing Laboratory  
Inspection Type: Routine  
Inspection Date: 12/1/09

License No.: 06-19279-01  
Priority: 5  
Inspector: CG

File No.: 16

Licensee: Roberto Buxedo Decri, M.D.  
Inspection Type: Routine  
Inspection Date: 8/12/08

License No.: 52-11897-01  
Priority: 3  
Inspectors: TW, LR

File No.: 17

Licensee: Yale-New Haven Hospital  
Inspection Type: Routine  
Inspection Dates: 1/25-28/10

License No.: 06-30445-01  
Priority: 2  
Inspectors: SG, LT



File No.: 18

Licensee: Huntington Testing and Technology, Inc.  
Inspection Type: Special  
Inspection Dates: 9/10-12/08

License No.: 47-23076-01  
Priority: 1  
Inspector: KM

File No.: 19

Licensee: Department of the Army  
Inspection Type: Special  
Inspection Dates: 9/27/05, 11/10/05, 11/14-15/05

License No.: 01-02861-05  
Priority: D  
Inspector: OMB

File No.: 20

Licensee: Stepan Company  
Inspection Type: Special  
Inspection Dates: 12/8/09, 3/2/10

License No.: STC-1333  
Priority: 2  
Inspector: MR

File No.: 21

Licensee: Concrete Imaging, Inc.  
Inspection Type: Special  
Inspection Dates: 6/15-17/07

License No.: 19-3123-02  
Priority: 1  
Inspector: MR

File No.: 22

Licensee: Battelle National  
Inspection Type: Special  
Inspection Date: 5/27/09

License No. 19-31362-01  
Priority: 5  
Inspector: LK

File No.: 23

Licensee: Varian Medical Systems  
Inspection Type: Special  
Inspection Date: 1/27-29/09

License No.: 45-30957-01  
Priority: 5  
Inspectors: PL, KM, SP

File No.: 24

Licensee: SAIC-Frederick  
Inspection Type: Routine  
Inspection Dates: 2/27-28/07, 3/15/07

License No.: 19-21091-01  
Priority: 3  
Inspectors: SH, JJ

File No.: 25

Licensee: Tidewater, Inc.  
Inspection Type: Reciprocity  
Inspection Date: 6/17/09

License No.: MD-27-087-02  
Priority: 5  
Inspector: KM

File No.: 26

Licensee: Puerto Rico Medical Service Authorization  
Inspection Type: Routine  
Inspection Dates: 3/23-25/10

License No.: 52-31281-02  
Priority: 2  
Inspectors: LT, RR

File No.: 27

Licensee: ABB, Inc.

License Nos.: 06-00217-06

SNM-1067

Inspection Type: Routine

Priorities: D, 2

Inspection Dates: 12/2-3/08

Inspector: JN

### INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1

Licensee: Danbury Hospital

Inspection Type: Routine

Inspection Date: 3/16/10

License No.: 06-08544-01

Priority: 2

Inspector: RM

Accompaniment No.: 2

Licensee: Bridgeport Hospital

Inspection Type: Routine

Inspection Date: 3/18/10

License No.: 06-01060-10

Priority: 2

Inspector: RM

Accompaniment No.: 3

Licensee: St. Mary's Hospital

Inspection Type: Routine

Inspection Date: 3/17/10

License No.: 06-00679-01

Priority: 3

Inspector: RM

Accompaniment No.: 4

Licensee: Hospital Perea

Inspection Type: Routine

Inspection Date: 4/20/10

License No.: 52-19984-01

Priority: 3

Inspector: LT

Accompaniment No.: 5

Licensee: Mayaguez Nuclear Medicine

Inspection Type: Routine

Inspection Date: 4/21/10

License No.: 52-25507-01

Priority: 3

Inspector: LT

Accompaniment No.: 6

Licensee: Bella Vista Hospital

Inspection Type: Routine

Inspection Date: 4/21/10

License No.: 52-25223-01

Priority: 3

Inspector: LT

Accompaniment No.: 7

Licensee: Testing Technologies, Inc.

Inspection Type: Reciprocity

Inspection Date: 3/23/10

License No.: 45-25007-01

Priority: 1

Inspector: MR

Accompaniment No.: 8  
Licensee: SAIC-Frederick  
Inspection Type: Routine  
Inspection Date: 3/24/10

License No.: 19-21091-01  
Priority: 3  
Inspector: DL

Accompaniment No.: 9  
Licensee: Alfred I. DuPont Hospital for Children  
Inspection Type: Routine  
Inspection Date: 3/10/10

License No.: 07-16199-03  
Priority: 5  
Inspector: LK

## APPENDIX D

### LICENSING CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1 Licensee: Defense Logistics Agency Action: Renewal Date Issued: 2/17/10	License No.: STC-133 Amendment No.: 34 License Reviewer: DL
File No.: 2 Licensee: Terranearpmc, LLC Action: New Date Issued: 3/8/10	License No.: 37-31379-02 Amendment No.: N/A License Reviewer: SH
File No.: 3 Licensee: The Catholic University of America Action: Financial Assurance Date Issued: 3/8/10	License No.: 08-02075-03 Amendment No.: N/A License Reviewer: DL
File No.: 4 Licensee: Tracewell Services, Inc. Action: Renewal Date Issued: 2/3/10	License No.: 47-25480-01 Amendment No.: 01 License Reviewer: SW
File No.: 5 Licensee: Tomé & Ubiñas RadioOncology Action: Renewal Date Issued: 3/23/10	License No.: 52-25487-01 Amendment No.: 09 License Reviewer: JN
File No.: 6 Licensee: Battelle National Biodefense Inst. Action: New Date Issued: 6/25/09	License No.: 19-31362-01 Amendment No.: N/A License Reviewer: LK
File No.: 7 Licensee: Protometrix Action: Termination Date Issued: 5/29/09	License No.: 06-30693-01 Amendment No.: 06 License Reviewer: TT
File No.: 8 Licensee: Puerto Rico Medical Services Adm. Action: New Date Issued: 6/4/09	License No.: 52-31281-02 Amendment No.: N/A License Reviewer: PL

File No.: 9

Licensee: RCOA Imaging Services

Action: New

Date Issued: 2/23/09

License No.: 09-31351-01

Amendment No.: N/A

License Reviewer: DL

File No.: 10

Licensee: Lantheus Medical Imaging

Action: New

Date Issued: 11/17/09

License No.: 52-25361-02

Amendment No.: N/A

License Reviewer: EU

File No.: 11

Licensee: Marshall University

Action: Financial Assurance

Date Issued: 3/8/06

License No.: 47-05972-02

Amendment No.: N/A

License Reviewer: SH

File No.: 12

Licensee: Entergy Nuclear Operations

Action: Termination

Date Issued: 8/21/08

License No.: 20-07626-04

Amendment No.: 08

License Reviewer: KM

File No.: 13

Licensee: Hotwell Services, Inc.

Action: Termination

Date Issued: 4/21/09

License No.: 42-31298-01

Amendment No.: 03

License Reviewer: JJ

File No.: 14

Licensee: Hotwell Services, Inc.

Action: New

Date Issued: 4/21/09

License No.: 37-31365-01

Amendment No.: N/A

License Reviewer: JJ

File No.: 15

Licensee: Washington Hospital Center

Action: Amendment

Date Issued: 4/7/08

License No.: 08-03604-03

Amendment No.: 47

License Reviewer: PL

File No.: 16

Licensee: URS Corporation Infrastructure

Action: New

Date Issued: 2/1/07

License No.: 06-31214-01

Amendment No.: N/A

License Reviewer: JS

File No.: 17

Licensee: All Heart Medical Center

Action: New

Date Issued: 3/20/07

License No.: 08-31224-01

Amendment No.: N/A

License Reviewer: DJ

File No.: 18

Licensee: Clearon Corporation

Action: Renewal

Date Issued: 2/20/07

License No.: 47-24837-01

Amendment No.: 07

License Reviewer: SL

File No.: 19

Licensee: Department of the Navy

Action: Financial Assurance

Date Issued: 3/15/06

License No.: 45-23645-01

Amendment No.: N/A

License Reviewer: OMB

File No.: 20

Licensee: Astenjohnson, Inc.

Action: Amendment

Date Issued: 8/2/07

License No.: 39-32137-01

Amendment No.: 08

License Reviewer: TS

File No.: 21

Licensee: AstraZeneca Pharmaceuticals, LP

Action: Amendment

Date Issued: 4/3/07

License No.: 07-03990-01

Amendment No.: 44

License Reviewer: N/A

File No.: 22

Licensee: Department of the Army

Action: Amendment

Date Issued: 9/15/06

License No.: 29-01022-07

Amendment No.: 35

License Reviewer: EU

File No.: 23

Licensee: University of Connecticut

Action: Financial Assurance

Date Issued: 11/25/08

License No.: 06-01450-47

Amendment No.: N/A

License Reviewer: SC

File No.: 24

Licensee: Biocompatibles, Inc.

Action: Amendment

Date Issued: 8/25/06

License No.: 06-30764-01

Amendment No.: 11

License Reviewer: DL

File No.: 25

Licensee: Union Carbide Corporation

Action: Amendment

Date Issued: 6/20/06

License No.: 47-00260-02

Amendment No.: 50

License Reviewer: DL

File No.: 26

Licensee: ABB, Inc.

Action: Decommissioning

Date Issued: 7/8/09

License No.: 06-00217-06

Amendment No.: 62

License Reviewers: JS, JN

File No.: 27

Licensee: Defense Intelligence Agency  
Action: Renewal  
Date Issued: 9/22/08

License No.: 01-25316-01  
Amendment No.: 08  
License Reviewer: TT

File No.: 28

Licensee: Defense Logistics Agency  
Action: Decommissioning  
Date Issued: 2/21/07

License No.: STC-133  
Amendment No.: 28  
License Reviewer: DL

File No.: 29

Licensee: Department of the Army  
Action: Decommissioning  
Date Issued: 9/14/06

License No.: SUB-834  
Amendment No.: 31  
License Reviewer: EU

File No.: 30

Licensee: Divine Providence Hospital  
Action: Amendment  
Date Issued: 11/7/07

License No.: 37-16101-02  
Amendment No.: 41  
License Reviewer: SG

File No.: 31

Licensee: Tomé & Ubiñas RadioOncology  
Action: Renewal  
Date Issued: 3/23/10

License No.: 52-25487-01  
Amendment No.: 09  
License Reviewer: PL

File No.: 32

Licensee: New Milford Hospital  
Action: Amendment  
Date Issued: 1/11/10

License No.: 06-17892-01  
Amendment No.: 26  
License Reviewer: HB

File No.: 33

Licensee: Sentara CarePlex Hospital  
Action: Amendment  
Date Issued: 10/28/08

License No.: 45-09087-01  
Amendment No.: 50  
License Reviewer: SG

File No.: 34

Licensee: University of Pennsylvania  
Action: Amendment  
Date Issued: 10/16/06

License No.: 37-00118-07  
Amendment No.: 69  
License Reviewer: TW

## APPENDIX E

### INCIDENT CASEWORK REVIEWED

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1

Licensee: Regional Nuclear Pharmaceuticals

Date of Incident: 12/13/04

Investigation Date: 1/26/05

License No.: 29-30867

NMED No.: 050057

Type of Incident: Lost/stolen material

Type of investigation: Licensee report

File No.: 2

Licensee: Fox Chase Cancer Center

Date of Incident: 2/24/05

Investigation Date: 2/28/05

License No.: 37-02766-01

NMED No.: 050125

Type of Incident: Lost/stolen material

Type of Investigation: Licensee report

File No.: 3

Licensee: Oconee Unit 1

Date of Incident: 4/11/05

Investigation Date: 4/12/05

License No.: DPR-0038

NMED No.: 050226

Type of Incident: Transportation

Type of Investigation: Event notification

File No.: 4

Licensee: University of Uniformed Services

Date of Incident: 6/6/05

Investigation Date: 6/6/05

License No.: 19-08330-03

NMED No.: 050382

Type of Incident: Equipment failure

Type of Investigation: Licensee report

File No.: 5

Licensee: Quaker Sales Corp

Date of Incident: 6/20/06

Investigation Date: 6/20/06

License No.: 37-23351-02

NMED No.: 060403

Type of Incident: Damaged equipment

Type of Investigation: Licensee report

File No.: 6

Licensee: Windsor Service

Date of Incident: 7/10/06

Investigation Date: 8/22/06

License No.: 37-18494-01

NMED No.: 060440

Type of Incident: Damaged equipment

Type of Investigation: Site

File No.: 7

Licensee: Pennoni Associates

Date of Incident: 8/19/06

Investigation Date: 11/17/06

License No.: 37-17637-02

NMED No.: 060526

Type of Incident: Lost/stolen material

Type of Investigation: Site



File No.: 8

Licensee: Grandview Hospital  
Date of Incident: 8/28/06  
Investigation Date: 8/28/06

License No.: 37-13187-02  
NMED No.: 060577  
Type of Incident: Contamination  
Type of Investigation: Licensee report

File No.: 9

Licensee: Agilent Technologies  
Date of Incident: 9/22/06  
Investigation Date: 9/22/06

License No.: 07-28762-01  
NMED No.: 060708  
Type of Incident: Equipment failure  
Type of Investigation: Licensee report

File No.: 10

Licensee: Camden Iron and Metal  
Date of Incident: 1/22/07  
Investigation Date: 1/22/07

License No.: 45-00131-02  
NMED No.: 070049  
Type of Incident: Lost/stolen material  
Type of Investigation: Licensee report

File No.: 11

Licensee: Schlumberger PTC  
Date of Incident: 2/14/07  
Investigation Date: 3/5/07

License No.: 29-08636-02  
NMED No.: 070130  
Type of Incident: Lost/stolen material  
Type of Investigation: Site

File No.: 12

Licensee: Sibley Memorial Hospital  
Date of Incident: 3/12/07  
Investigation Date: 3/12/07

License No.: 08-07398-03  
NMED No.: 070230  
Type of Incident: Medical  
Type of Investigation: Licensee report

File No.: 13

Licensee: Hudson Global Resource Management  
Date of Incident: 11/1/05  
Investigation Date: 1/5/06

License No.: 37-27891-01  
NMED No.: 070348  
Type of Incident: Potential overexposure  
Type of Investigation: Licensee report

File No.: 14

Licensee: Blazosky Associates, Inc.  
Date of Incident: 6/25/07  
Investigation Date: 6/25/07

License No.: 37-28507-01  
NMED No.: 070385  
Type of Incident: Damaged equipment  
Type of Investigation: Licensee report

File No.: 15

Licensee: Department of the Army  
Date of Incident: 8/30/08  
Investigation Date: 9/11/08

License No.: 32-04054-04  
NMED No.: 080546  
Type of Incident: Contamination  
Type of Investigation: Licensee report

File No.: 16

Licensee: Froehling and Robertson, Inc.

Date of Incident: 10/16/08

Investigation Date: 10/17/08

License No.: 45-08890-02

NMED No.: 080677

Type of Incident: Transportation

Type of Investigation: Site

File No.: 17

Licensee: Construction Testing & Engineering

Date of Incident: 1/22/09

Investigation Date: 1/22/09

License No.: 45-25554-01

NMED No.: 090096

Type of Incident: Damaged equipment

Type of Investigation: Site

File No.: 18

Licensee: Department of Homeland Security

Date of Incident: 10/1/07

Investigation Date: 10/1/07

License No.: 08-17447-01

NMED No.: 090133

Type of Incident: Lost/stolen material

Type of Investigation: Site

File No.: 19

Licensee: Inova Fairfax Hospital

Date of Incident: 1/8/09

Investigation Date: 1/8/09

License No.: 45-17128-01

NMED No.: 090476

Type of Incident: Leaking source

Type of Investigation: Licensee report

File No.: 20

Licensee: Langan Engineering  
& Environmental Services

Date of Incident: 6/29/09

Investigation Date: 6/30/09

License No.: 29-15786-02

NMED No.: 090569

Type of Incident: Damaged equipment

Type of Investigation: Site

ATTACHMENT

June 17, 2010 Memorandum from John D. Kinneman  
Region I's Response to the Draft Report

ADAMS Accession No.: ML101680279