

January 6, 2014

Michael Snee, Chief
Bureau of Radiation Protection
Ohio Department of Health
246 North High Street
118 Columbus, OH 43215

Dear Mr. Snee:

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, which documents the results of the Agreement State review, held in Ohio on December 10-13, 2013. I was the team leader for the review. The review team's preliminary findings were discussed with you and your management and staff on the last day of the review. The review team's proposed recommendations are that the Ohio Agreement State Program be found adequate to protect public health and safety, and compatible with the NRC's program.

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 States' and NRC Regional Offices' radioactive materials programs. All reviews use common criteria in the assessment and place primary emphasis on performance. Two additional areas applicable to your program have been identified as non-common performance indicators and are also addressed in the assessment. The final determination of adequacy and compatibility of each Agreement State 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 draft team 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 the response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. Based on our previous discussion we have scheduled the Ohio MRB meeting on February 18, 2014. The NRC will provide invitational travel for you or your designee to attend the MRB meeting at NRC Headquarters in Rockville, Maryland. NRC has video conferencing capability if it is more convenient for the State to participate through this medium. Please contact me if you desire to establish a video conference for the meeting.

M. Snee

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If you have any questions regarding the enclosed report, please contact me at (610) 337-6942 or michelle.beardsley@nrc.gov.

Thank you for your cooperation.

Sincerely,

/RA/

Michelle R. Beardsley, Health Physicist
Office of Federal and State Materials and
Environmental Management Programs

Enclosure:
Ohio Draft IMPEP Report

M. Snee

-2-

If you have any questions regarding the enclosed report, please contact me at 610-337-6942 or michelle.beardsley@nrc.gov.

Thank you for your cooperation.

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Michelle R. Beardsley, Health Physicist
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Enclosure:
Ohio Draft IMPEP Report

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE OHIO AGREEMENT STATE PROGRAM

DECEMBER 10-13, 2013

DRAFT REPORT

Enclosure

EXECUTIVE SUMMARY

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Ohio Agreement State Program. The review was conducted during the period of December 10-13, 2013, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Minnesota.

Based on the results of this review, Ohio's performance was found satisfactory for all performance indicators reviewed. The review team did not make any recommendations regarding program performance by the State and determined that the one recommendation from the 2008 IMPEP review be closed.

The review team identified a good practice by the State regarding its creation of a board to review all medical events and any other events involving potential overexposures in order to formulate a comprehensive and informed response by all board members. (see Section 3.5 for more details).

Accordingly, the review team recommends that the Ohio Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. The review team recommends that the next IMPEP review take place in approximately five years.

1.0 INTRODUCTION

This report presents the results of the review of the Ohio Agreement State Program. The review was conducted during the period of December 10-13, 2013, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Minnesota. 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 1, 2008 to December 13, 2013, were discussed with Ohio 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 Ohio Agreement State Program is administered by the Bureau of Radiation Protection (the Bureau), which is located within the Division of Prevention (the Division). The Division is part of the Department of Health (the Department). Organization charts for the Department and the Bureau are included as Appendix B.

At the time of the review, the Ohio Agreement State Program regulated 608 specific licenses authorizing possession and use of radioactive 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 State of Ohio.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to the Bureau on April 2, 2013. The Bureau provided its response to the questionnaire on December 10, 2013. A copy of the questionnaire response can be found in NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML13281A503.

The review team's general approach for conduct of this review consisted of: (1) examination of the Bureau's response to the questionnaire, (2) review of applicable Ohio statutes and regulations, (3) analysis of quantitative information from the Bureau's database, (4) technical review of selected regulatory actions, (5) field accompaniments of six 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 Ohio Agreement State Program's performance.

Section 2.0 of this report covers the State's actions in response to the recommendation made during 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 October 31, 2008, the review team made one recommendation regarding the Ohio Agreement State Program's performance. The status of the recommendation is as follows:

The review team recommends that the State document and implement a training and qualification program that, at a minimum, contains a statement of policy, minimum qualifications for staff training, and supervisory verification for ensuring this policy is implemented. (Section 3.1)

Status: The State developed and implemented a training and qualification program for technical staff members. Supervisors maintain a folder for each employee, which contains the training policy, and has records of training, supervisory accompaniments, and approvals for specific types of inspections and licensing actions. This recommendation is 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

Considerations central to the evaluation of this indicator include the Bureau'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 Bureau's questionnaire response relative to this indicator, interviewed managers and staff, reviewed job descriptions and training records, and considered workload backlogs.

The Bureau is located in the Department offices in Columbus and is headed by the Bureau Chief. The Bureau is divided into three programs: the Nuclear Material Safety Program, the X-ray Program, and the Technical Support Program. Each program is managed by an administrator. The Agreement State program is implemented by the Nuclear Material Safety Program and a portion of the Technical Support Program. The Nuclear Material Safety Program functions as the licensing and inspection group for radioactive materials. The Technical Support Program is responsible for oversight of staff training and houses the Bureau's radiation safety officer program.

At the time of the review, there were 24 technical staff members with various degrees of involvement in the radioactive materials program, totaling approximately 20.3 full-time equivalents (FTE). No technical positions were vacant at the time of this review. Nine technical staff members were hired during the five-year review period, including people with industry and medical experience. Seven employees left the program during the review period for other positions in Ohio government and industry, or retirement. The vacancies were promptly filled. Two employees are currently working remotely for the program from other

State offices. The review team determined that staffing levels were adequate for the Agreement State program.

The Bureau 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) 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguards Program Area." The review team suggested that the Program may wish to use the recently issued IMC 1248, "Formal Qualifications Programs for Federal and State Materials and Environmental Management Programs," which has an expanded qualification journal component.

The Bureau uses a combination of self-study and formal training, such as NRC courses; and on-the-job experience to qualify staff as both inspectors and license reviewers. New staff members are trained in licensing and inspection by performing simple licensing and inspection activities and gradually working toward more technical activities. All new staff members perform licensing actions and inspections with a senior-level staff member providing support and guidance until they are approved by their supervisor to work independently. An individual is approved to perform independent actions after the supervisor has observed or reviewed the individual's performance on several licensing actions or inspections of a given license type.

The State uses "Ohio Train", which is a State-wide web-based system, to electronically track each staff member's training history. Monthly training sessions on current topics are widely attended by staff. The review team noted that Department and Bureau managers enthusiastically support training opportunities for staff members.

Based on the IMPEP evaluation criteria, the review team recommends that Ohio'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 dispatch of inspection findings to licensees, and performance of reciprocity inspections. The review team's evaluation was based on the Bureau's questionnaire response relative to this indicator, data gathered from the Bureau's database, examination of completed inspection casework, and interviews with management and staff.

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

The Bureau conducted 508 Priority 1, 2, and 3 inspections during the review period, none of which were performed overdue based on the inspection frequencies established in IMC 2800. In addition, the Bureau performed 63 initial inspections during the review period, none of which were conducted overdue.

The review team evaluated the Bureau's timeliness in providing inspection findings to licensees. A sampling of 25 inspection reports indicated that four of the inspection findings were

communicated to the licensees beyond the Bureau's goal of 30 days after the inspection (from 4 to 75 days overdue)

During the review period, the Bureau granted 380 reciprocity permits, 122 of which were candidate licensees based upon the criteria in IMC 1220. The review team determined that the Bureau exceeded the NRC's criteria of inspecting 20 percent of candidate licensees operating under reciprocity in each of the four years covered by the review period.

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

3.3 Technical Quality of Inspections

The review team evaluated the inspection reports, enforcement documentation, inspection field notes, and interviewed inspectors for 25 radioactive materials inspections conducted during the review period. The casework reviewed included inspections conducted by eleven Bureau inspectors and covered inspections of various license types, including: medical broad scope, medical institutions-therapy (including high dose rate remote afterloader, permanent/temporary implant brachytherapy), medical-diagnostic, portable gauges, industrial radiography, gamma knife, nuclear pharmacy, and Increased Security Controls for Large Quantities of Radioactive Materials (Increased Controls). Appendix C lists the inspection casework files reviewed, as well as the results of the inspector accompaniments.

Based on the evaluation of casework, the review team noted that inspections covered all aspects of the licensee's radiation safety programs. The review team found that inspection reports were thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that a licensee's performance with respect to health and safety was acceptable. The documentation supported violations, recommendations made to licensees, unresolved safety issues, the effectiveness of corrective actions taken to resolve previous violations and discussions held with licensees during exit interviews.

The inspection procedures utilized by the Bureau are consistent with the inspection guidance outlined in IMC 2800. An inspection report is completed by the inspector which is then reviewed and signed by the Manager. Supervisory accompaniments were conducted annually for all inspectors.

The review team determined that the inspection findings were appropriate and prompt regulatory actions were taken, as necessary. Inspection findings were clearly stated and documented in the reports and sent to the licensees with the appropriate letter detailing the results of the inspection. The Bureau issues to the licensee, either a letter indicating a clear inspection or a Notice of Violation (NOV), in letter format, which details the results from the inspection. When the Bureau issues an NOV, the licensee is required to provide a written corrective action plan, based on the violations cited, within 30 days. All findings are reviewed by the Program Manager.

The review team noted that the Bureau has an adequate supply of survey instruments to support their inspection program. Appropriate, calibrated survey instrumentation, such as

Geiger-Mueller (GM) meters, scintillation detectors, ion chambers, micro-R meters, and neutron detectors, was observed to be available. The Bureau also has portable multi-channel analyzers located in offices across the State. Instruments are calibrated at least annually, or as needed, with National Institute of Standards and Technology traceable sources. The Bureau uses a database to track each instrument, its current location, and next calibration date.

Accompaniments of six Bureau inspectors were conducted by two IMPEP team members during the week of September 9, 2013. The inspectors were accompanied during health and safety inspections of source manufacturing, industrial radiography, portable gauges, nuclear pharmacy, medical therapy including high dose rate remote afterloader/gamma knife/unsealed radioiodine therapy/permanent implant brachytherapy, etc., and medical diagnostic licenses. The accompaniments are identified in Appendix C. During the accompaniments, the inspectors demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted performance-based inspections. The inspectors were trained, well-prepared for the inspection, and thorough in their audits of the licensees' radiation safety programs. The inspectors conducted interviews with appropriate personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. The inspections were adequate to assess radiological health and safety and security at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommends that Ohio'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 27 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, supervisory review, and proper signatures.

The licensing casework was selected to provide a representative sample of licensing actions completed during the review period. Licensing actions selected for evaluation included 6 new licenses, 3 renewals, 3 decommissioning or termination actions, and 15 amendments. Files reviewed included a cross-section of license types, including: broadscope, medical diagnostic and therapy (including high dose rate remote afterloader, unsealed radioiodine therapy, temporary/permanent implant brachytherapy), gamma knife, industrial radiography, research and development, nuclear pharmacy, gauges, and manufacturers. The casework sample represented work from 12 license reviewers. A list of the licensing casework evaluated with case-specific comments is provided in Appendix D.

The review team discovered one amended license issued for a facility with a gamma knife included an authorized medical physicist who was added to the license without proper documentation to verify the training, experience, and preceptor attestation; specifically the documentation submitted did not meet the educational requirements. The review team brought

this to the attention of the Bureau, who immediately contacted the licensee and determined this specific authorized medical physicist could be qualified through the same educational requirements he met to be on a license in 2011 for high dose rate afterloader. The Bureau then added the appropriate documentation to the file for the gamma knife amendment to show the authorized medical physicist meets the educational requirements.

Overall, the review team found that the licensing actions were thorough, complete, consistent, and of high quality with health, safety, and security issues properly addressed. License tie-down conditions were stated clearly and were supported by information contained in the file. Requests for licensing deficiencies clearly stated regulatory positions, were used at the proper time, and identified substantive deficiencies in the licensees' documents. Terminated licensing actions were well documented, showing appropriate transfer and survey records. License reviewers use the Bureau's licensing guides and NRC NUREG-1556 series guidance documents, policies, checklists, and standard license conditions specific to the type of licensing actions to ensure consistency in licenses.

All license evaluators have signature authority for licensing actions. The Supervisors perform a technical and supervisory review on all licensing actions before issuance to the licensee. Licenses are issued for a five year period under a timely renewal system.

Based on the casework evaluated, the review team concluded that the licensing actions were of high quality and consistent with the Bureau's licensing procedures and/or NUREG-1556 guidance documents, the State'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 Bureau performs pre-licensing checks of all new applicants. The Bureau's pre-licensing review methods incorporate the essential elements of the NRC's revised pre-licensing guidance to verify that the applicant will use requested radioactive materials as intended. The Bureau hand-delivers all new licenses to the licensee's location of material use. At that time a pre-licensing site visit, which includes an evaluation of the applicant's radiation safety and security programs, is performed. Then team determined that the pre-licensing site visit met the requirements for an initial inspection.

The review team examined the Bureau's licensing practices regarding the Increased Controls and Fingerprinting Orders. The review team noted that the State uses legally binding license conditions that meet the criteria for implementing the Increased Controls Orders, including fingerprinting, as appropriate. The review team analyzed the Bureau's methodology for identifying those licenses and found the rationale was thorough and accurate. The review team confirmed that license reviewers evaluated new license applications and license amendments using the same criteria. The Bureau requires full implementation of the Increased Controls prior to issuance of a new license or license amendment that meets the established criteria.

The review team examined the Bureau's implementation of its procedure for the control of sensitive information. This procedure addresses the identification, marking, control, handling, preparation, transportation, transmission, and destruction of documents that contain sensitive information related to the Increased Controls. While on site, the review team evaluated the Bureau's handling and storing of sensitive documents. The team noted that while files

containing Increased Controls documents were appropriately protected, segregated from other files, and maintained in a manner to limit access; the actual licenses in those files were not marked as containing sensitive information. The team discussed this issue with Bureau management who committed to address this in their procedure for the handling of documents containing sensitive, security information and also committed to marking these documents as such. Additionally, during casework evaluations, the review team noted that some of the reciprocity files containing sensitive information had not been secured in the same manner as the Increased Controls files. This was discussed with the Bureau, who immediately identified and secured the files.

Based on the IMPEP evaluation criteria, the review team recommends that Ohio'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 Bureau's actions in responding to incidents and allegations, the review team examined the Bureau's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Ohio in the Nuclear Material Events Database (NMED) against those contained in the Bureau's files, and evaluated the casework for 27 radioactive materials incidents. A list of the incident casework examined, with case-specific comments, may be found in Appendix E. The review team also evaluated the Bureau's response to 13 allegations involving radioactive materials, including 4 allegations referred to the State by the NRC during the review period.

The review team examined the Bureau's implementation of its incident and allegation processes, including written procedures for handling allegations and incident response, file documentation, and reporting of incidents. When notification of an incident or an allegation is received, a program supervisor determines the appropriate level of initial response. If the incident involves a medical event or other potential exposure event, the Bureau Medical Event Review Team (BMERT) is assembled. The BMERT is chaired by the Radiation Protection Bureau Chief and is composed of administrators from the Nuclear Materials Safety, Technical Support, and X-Ray Sections, the Supervisor overseeing the incident, the Office of General Counsel, and other personnel as requested. Participation by both radioactive material and x-ray program representatives allows the Bureau a comprehensive view of radiation use in the State. The process has resulted in the identification of crosscutting issues amongst the represented sections who regulate the same licensees, but different activities such as linear accelerators and brachytherapy. The BMERT also tracks escalated enforcement and allegation cases. The review team identified this as a good practice by the State.

The review team identified approximately 208 radioactive material incidents in NMED for Ohio during the review period, of which 59 required reporting. Twenty non-reportable incidents in NMED for Ohio were also reviewed for reportability and found to be correctly categorized as non-reportable by the Bureau. The review team selected 27 reportable radioactive material incidents for evaluation. These incidents included the following types of events: lost radioactive material; overexposure; medical event; equipment failure, damaged equipment; leaking source, and contamination. The Bureau's responses to the incidents were found to be complete and comprehensive. Initial responses were prompt and well-coordinated, and the level of effort was commensurate with the potential health and safety significance of the event. Inspectors were

dispatched for onsite investigations when appropriate. Ohio places a high priority on on-site responses as evidenced by an on-site response in 22 of the 27 incidents evaluated during this review. Enforcement and other regulatory actions were taken as appropriate. The actions taken in response to incidents were documented in Ohio's RADMAT database. If the incident met the reportability thresholds, as established in the Office of Federal and State Materials and Environmental Management Programs (FSME) Procedure SA-300 "Reporting Material Events," the State notified the NRC Headquarters Operations Center and entered the information into NMED, in a prompt manner.

In evaluating the effectiveness of the Bureau's response to allegations, the review team evaluated the completed casework for 13 allegations, including four that NRC referred to the State during the review period. The review team concluded that the Bureau took prompt and appropriate actions in response to concerns raised. The review team noted that the Bureau documented the investigations of concerns and retained all necessary documentation to appropriately close the allegations. The Bureau notified the concerned individuals of the conclusion of their investigations. The review team determined that the Bureau adequately protected the identity of concerned individuals.

Based on the IMPEP evaluation criteria, the review team recommends that Ohio'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.

4.1 Compatibility Requirements

4.1.1 Legislation

Ohio became the 31st Agreement State in 1999. Legislative authority to create an agency and enter into an Agreement with the NRC is granted in Ohio Revised Code, Section 3748.03. The Department is designated as the State's radiation control agency. The Department Director has designated the Bureau Chief to administer the Agreement State program for the Department. The review team noted that three new pieces of legislation in the Ohio Revised Code were passed since the last review affecting the Agreement State program or its authority. These included: Chapter 3748 regarding overall legislation for the program, Chapter 3747 regarding low level radioactive waste act, and Chapter 119 regarding due process for license termination.

4.1.2 Program Elements Required for Compatibility

The Ohio Regulations for Control of Radiation are found in various chapters of Section 3701 of the OAC. These rules apply to all ionizing radiation, whether emitted from radionuclides or machine sources. Ohio requires a license for possession and use of all radioactive material. These rules are subject to review every five years to decide whether to continue the rule as it

exists or modify it. During the review period no changes were made to the enabling legislation affecting the radioactive materials program.

The review team examined the procedures used in the Department's regulatory process and found that regulations are drafted by staff and presented to the Radioactive Materials Committee of the Radiation Advisory Council (the Council). The regulations are posted on the Department's web site and electronically sent to interested stakeholders for a 30- to 45-day comment period. Concurrently, the proposed rules are sent to NRC for a compatibility review. Any comments received from NRC, stakeholders, or the public are evaluated, and the regulations are revised, as necessary. The revised regulations are submitted to the Council for a recommendation for adoption. The formal rule adoption process begins with submittal to the Ohio Public Health Advisory Board, which places the review of the proposed rules on their calendar, holds a public hearing, and then submits the proposed rules to the Joint Committee on Agency Rules Review (JCARR). The JCARR is composed of State legislators and senators. After JCARR completes its review of the proposed rules and if it takes no action against the rule, the Director of Health signs the rule into enactment after it receives final approval by the Common Sense Initiative-Small Business Initiative of the Governor's Office. The legislation process takes approximately one year from submittal to finalization.

The review team evaluated the Bureau's response to the questionnaire relative to this indicator, reviewed the status of regulations required to be adopted by the State under the Commission's adequacy and compatibility policy, and verified the adoption of regulations with data obtained from the State Regulation Status sheet that FSME maintains. The team found that Ohio submitted eight proposed regulation amendments for NRC review during the review period and is current on all rulemaking. These amendments are as follows:

- Requirements for Expanded Definition of Byproduct Material 10 CFR Parts 20, 30, 31, 32, 33, 35, 50, 61, 62, 72, 110, 150, 170, and 171 (72 FR 55864, 73 FR 42671) due for adoption November 30, 2010.
- Occupational Dose Records, Labeling Containers and Total Effective Dose Equivalent, Parts 19 and 20, (72 FR 68043) due for adoption February 15, 2011.
- Medical Use of Byproduct Material—Authorized User Clarification, Part 35 (74 FR 33901) due for adoption September 28, 2012.
- "Decommissioning Planning", Parts 20, 30, 40, 70, (76 FR 35512) due for adoption December 17, 2015.
- "Licenses, Certifications, and Approvals for Materials Licensees", Parts 30, 36, 39, 40, 70, and 150, (76 FR 56951) due for adoption November 14, 2014.
- "Change of Compatibility of 10 CFR 31.5 and 31.6", (77 FR 3640), due for adoption January 25, 2015.
- Advance Notification to Native American tribes of Transportation of Certain Types of Nuclear Waste (77 FR 34194) due for adoption August 10, 2015.

- Physical Protection of Byproduct Material, 10 CFR Parts 20, 30, 32, 33, 34, 35, 36, 37, 39, 51, 71 and 73 (78 FR 16922, due for adoption March 19, 2016)

A complete list of regulation amendments can be found on the NRC website at the following address: http://nrc-stp.ornl.gov/rss_regamendments.html.

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

4.2 Sealed Source and Device Evaluation Program

In reviewing this indicator, the review team used three subelements to evaluate the Bureau's performance regarding the Sealed Source and Device (SS&D) Evaluation Program. These subelements were: (1) Technical Staffing and Training, (2) Technical Quality of the Product Evaluation Program, and (3) Evaluation of Defects and Incidents Regarding SS&Ds.

In assessing the State SS&D evaluation activities, the review team examined the information provided in response to the IMPEP questionnaire and evaluated the SS&D registry sheets and supporting documents processed during the review period. The team also evaluated SS&D staff training records; certain reported incidents involving products authorized in Ohio SS&D registrations, the use of guidance documents and procedures, and interviewed the staff currently conducting SS&D evaluations.

4.2.1. Technical Staffing and Training

The Bureau had three qualified SS&D reviewers with full signature authority during the review period. The Bureau had two SS&D reviewers-in-training and one qualified SS&D reviewer leave the Bureau during the review period.

The Bureau currently has two qualified reviewers. Both individuals have completed the NRC SS&D Workshop. The Bureau plans to designate two new reviewers-in-training to be trained in-house with oversight from the senior SS&D reviewers. It is being planned by the Bureau that the new reviewers-in-training be sent to the NRC SS&D Workshop in 2014.

4.2.2 Technical Quality of the Product Evaluation Program

The review team evaluated all of the 35 SS&D actions that the Bureau processed during the review period. The actions reviewed were for two new, 29 amended, and 4 inactivated SS&D registrations. The casework reviewed represented the efforts of all three SS&D reviewers. The casework review included all supporting documentation, licenses, and inspections associated with the distributors of the SS&Ds. A list of SS&D casework examined, with case-specific comments, can be found in Appendix F.

Analysis of the casework and interviews with the managers and staff confirmed that the Bureau's policy is to follow the recommended guidance from the NRC's SS&D Workshop and the Bureau's SS&D Evaluation and Registration procedure, NMS-LIC-03, which is equivalent to NRC's NUREG-1556, Volume 3, Revision 1, "Consolidated Guidance About Materials

Licenses - Applications for Sealed Source and Device Evaluation and Registration". Appropriate review checklists were used to ensure that all relevant materials were submitted and evaluated. The checklists were retained in the SS&D files along with other documents that identified the responsible reviewers. The review team confirmed that pertinent American National Standards Institute standards, NRC Regulatory Guides, and applicable references were available and used appropriately in performing the SS&D reviews.

The registration files contained all correspondence, engineering drawings, photographs, radiation profiles, and details of the licensees' quality assurance and quality control programs; however the review team found that in 10 of the 35 case files reviewed the drawings provided by the licensee were missing dimension labels. This issue was discussed with the Bureau, who indicated that they would review those registrations. The review team determined that overall the registrations clearly summarized the product evaluations to provide license reviewers with adequate information to license the possession and use of the products. Deficiency letters clearly stated regulatory positions. The review team determined that the evaluations were of high quality with health and safety issues properly addressed. The Bureau enforces the requirements of SS&D registrations through license conditions in the specific licenses issued to the distributors of SS&D products.

4.2.3 Evaluation of Defects and Incidents Regarding SS&Ds

Based upon the Bureau's response to the questionnaire, interviews with the Bureau's managers and staff, and the review team's searches of NMED, the review team determined that there were incidents or defects that the Bureau reported during the review period that involved SS&D products registered in Ohio. The review team determined that the Bureau analyzed the events, reviewed the issues, and followed up on the incidents adequately and in accordance with procedures established by the Bureau in NMS-LIC-03, which includes generic fault considerations when evaluating SS&D incidents. The review team concluded that the Bureau is routinely evaluating the root causes of defects and incidents involving SS&D evaluations and is taking appropriate actions.

The review team discovered many equipment failures reported in NMED from other States and NRC that involved SS&D products registered in Ohio. The review team compared these reports with actions taken by the Bureau.

The review team noted that the Bureau routinely monitors incidents reported to NRC and to NMED and identified incidents or defects associated with SS&D products registered in Ohio for further investigation and review. The review team concluded that the Bureau is routinely evaluating the root causes of defects and incidents involving SS&D evaluations and is taking appropriate actions.

The review team did not identify any allegations received by the Bureau related to defects or failures of SS&D products registered in Ohio during the review period.

Based on the IMPEP evaluation criteria, the review team recommended that Ohio's performance with respect to the indicator, Sealed Source and Device Evaluation Program, be found satisfactory.

4.3 Low Level Radioactive Waste Program (LLRW)

Although Ohio has LLRW disposal authority, NRC has not required States to have a program for licensing a LLRW disposal facility until such time as the State has been designated as a host State for a LLRW disposal facility. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, it is expected to put a regulatory program in place that meets the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in Ohio. Accordingly, the review team did not review this indicator.

4.4 Uranium Recovery Program

Although Ohio has authority to regulate uranium recovery activities, NRC has not required States to have a program for licensing a uranium recovery facility until such time as the State has such a facility. When an Agreement State has been notified or becomes aware of the need to regulate a uranium recovery facility, it is expected to put a regulatory program in place that meets the criteria for an adequate and compatible uranium recovery program. There are no plans for a uranium recovery facility in Ohio. Accordingly, the review team did not review this indicator.

5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, Ohio's performance was found satisfactory for all performance indicators reviewed. The review team did not make any recommendations and determined that the recommendation from the 2008 IMPEP review be closed. One good practice was identified during the review, as detailed in Section 3.5.

Accordingly, the review team recommends that the Ohio 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 the next full IMPEP review take place in approximately five years.

LIST OF APPENDICES

Appendix A	IMPEP Review Team Members
Appendix B	Ohio Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
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APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
Michelle Beardsley, FSME	Team Leader Status of Materials Inspection Program Compatibility Requirements
James Lynch, Region III	Technical Staffing and Training Technical Quality of Incidents and Allegations Inspection Accompaniments
Sherrie Flaherty, Minnesota	Technical Quality of Licensing Actions
Joseph Nick, Region I	Technical Quality of Inspections Inspection Accompaniments
Stephen Poy, FSME	Sealed Source and Device Evaluation Program

APPENDIX B

OHIO ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML13281A813

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1 Licensee: Scott Process Systems, Inc. Inspection Type: Routine, Unannounced Inspection Date: 1/14/13	License No.: 03320770000 Priority: 1 Inspectors: PB/SK
File No.: 2 Licensee: Medical Physics Consultants Inspection Type: Routine, Announced Inspection Date: 1/16/13	License No.: 03225990000 Priority: 5 Inspector: CL
File No.: 3 Licensee: Janx Integrity Group Inspection Type: Special, Announced Inspection Date: 12/31/12	License No.: 03320990002 Priority: 1 Inspectors: SK/PB
File No.: 4 Licensee: Kanawha Scales & Systems Inspection Type: Routine, Announced Inspection Date: 12/26/12	License No.: 03214130000 Priority: 5 Inspector: SD
File No.: 5 Licensee: Case Western Reserve University Inspection Type: Routine, Announced Inspection Date: 12/11/12	License No.: 01100180011 Priority: 3 Inspector: SD
File No.: 6 Licensee: Navitus Engineering, Inc. Inspection Type: Initial, Announced Inspection Date: 10/24/12	License No.: 31210800002 Priority: 5 Inspector: PB
File No.: 7 Licensee: Northrup Grumman Systems Inspection Type: Initial, Announced Inspection Date: 10/3/13	License No.: 032140310003 Priority: 5 Inspector: PB
File No.: 8 Licensee: Desert NDT Inspection Type: Special, Announced Inspection Date: 9/12/13	License No.: 03320990009 Priority: 1 Inspector: SK

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Inspection Casework Reviews

C. 2

File No.: 9

Licensee: Halliburton Energy Services
Inspection Type: Initial, Unannounced
Inspection Date: 6/25/13

License No.: 31210990018
Priority: 5
Inspector: CS

File No.: 10

Licensee: VEGA Americas Corporation
Inspection Type: Routine, Announced
Inspection Date: 5/3/12

License No.: 03214310002
Priority: 5
Inspector: SD

File No.: 11

Licensee: Morrow County Hospital
Inspection Type: Initial, Unannounced
Inspection Date: 1/31/13

License No.: 02121600000
Priority: 5
Inspectors: CG/RB

File No.: 12

Licensee: The Cleveland Clinic Foundation
Inspection Type: Special, Announced
Inspection Date: 10/8/13

License No.: 02110180013
Priority: 2
Inspector: AC

File No.: 13

Licensee: Ohio State University
Inspection Type: Routine, Announced
Inspection Date: 12/4/12

License No.: 02110250037
Priority: 2
Inspectors: AC/SD/CG/RB

File No.: 14

Licensee: Jewish Hospital LLC
Inspection Type: Initial, Announced
Inspection Date: 1/3/13

License No.: 02120310029
Priority: 3
Inspector: DC

File No.: 15

Licensee: Chetan Patel MD LLC
Inspection Type: Initial, Unannounced
Inspection Date: 11/4/09

License No.: 02201440002
Priority: 5
Inspector: SD

File No.: 16

Licensee: Fisher-Titus Medial Center
Inspection Type: Special, Announced
Inspection Date: 8/27/10

License No.: 02120400001
Priority: 3
Inspector: AC

File No.: 17

Licensee: Christ Hospital
Inspection Type: Routine, Announced
Inspection Date: 6/14/11

License No.: 02120310008
Priority: 2
Inspectors: SD/KA

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Inspection Casework Reviews

C. 3

File No.: 18

Licensee: University Hospitals of Cleveland
Inspection Type: Routine, Announced
Inspection Date: 4/17/12

License No.: 02110180077
Priority: 2
Inspectors: AC/CG/SD

File No.: 19

Licensee: Unicon Physics, Inc.
Inspection Type: Routine, Unannounced
Inspection Date: 1/21/10

License No.: 03220310040
Priority: 5
Inspector: PB

File No.: 20

Licensee: Sen Tek Corporation
Inspection Type: Routine, Unannounced
Inspection Date: 12/26/12

License No.: 03214250002
Priority: 5
Inspector: CL

File No.: 21

Licensee: Progress Services, Inc.
Inspection Type: Routine, Announced
Inspection Date: 9/10/13

License No.: 03320530004
Priority: 1
Inspector: SK

File No.: 22

Licensee: Team Industrial Services
Inspection Type: Routine, Unannounced
Inspection Date: 10/9/13

License No.: 03320990000
Priority: 1
Inspector: SK

File No.: 23

Licensee: Coca Cola Refreshments
Inspection Type: Initial, Announced
Inspection Date: 8/21/13

License No.: 00006GL0279
Priority: N/A
Inspector: PB

File No.: 24

Licensee: Johns Manville
Inspection Type: Initial, Announced
Inspection Date: 5/29/13

License No.: 00006GL0047
Priority: N/A
Inspector: PB

File No.: 25

Licensee: Worthington Steel
Inspection Type: Initial, Announced
Inspection Date: 4/24/13

License No.: 00006GL0218
Priority: N/A
Inspector: PB

INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1	
Licensee: Flower Hospital	License No.: 02120490004
Inspection Type: Routine, Unannounced	Priority: 2
Inspection Date: 9/9/13	Inspector: AC
Accompaniment No.: 2	
Licensee: Cardinal Health (Nuclear Pharmacy Services)	License No.: 02500490001
Inspection Type: Routine, Announced	Priority: 2
Inspection Date: 9/10/13	Inspector: CG
Accompaniment No.: 3	
Licensee: Mercy St. Charles Hospital	License No.: 02120490017
Inspection Type: Routine, Announced	Priority: 2
Inspection Date: 9/11/13	Inspector: RB
Accompaniment No.: 4	
Licensee: URS Corporation	License No.: 31210180083
Inspection Type: Routine, Announced	Priority: 5
Inspection Date: 9/9/13	Inspector: CS
Accompaniment No.: 5	
Licensee: Progress Services, Inc.	License No.: 03320530004
Inspection Type: Routine, Announced, Special	Priority: 1
Inspection Date: 9/10/13	Inspector: SK
Accompaniment No.: 6	
Licensee: Fluke Biomedical	License No.: 03211180000
Inspection Type: Routine, Announced	Priority: 2
Inspection Date: 9/11/13	Inspector: PB

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1 Licensee: TSS Technologies, Inc Type of Action: New Date Issued: 2/3/11	License No.: 0362009000 Amendment No.: 0 License Reviewer: LB
File No.: 2 Licensee: Desert NDT, LLC Type of Action: New Date Issued: 9/26/13	License No.: 03320990009 Amendment No.: 0 License Reviewer: SK
File No.: 3 Licensee: Cardinal Health Type of Action: New Date Issued: 12/9/11	License No.: 02500310032 Amendment No.: 0 License Reviewer: CG
File No.: 4 Licensee: OSU Mobile Type of Action: New Date Issued: 4/16/11	License No.: 02220250000 Amendment No.: 0 License Reviewer: CG
File No.: 5 Licensee: UH AHUSA Medical Center Type of Action: New Date Issued: 9/29/10	License No.: 02120180103 Amendment No.: 0 License Reviewer: SD
File No.: 6 Licensee: St, Elizabeth Boardman Health Center Type of Action: Amendment Date Issued: 8/20/13	License No.: 02120510001: Amendment No.: 12 License Reviewer: AC
File No.: 7 Licensee: Gamma Med Type of Action: Renewal Date Issued: 9/2/11	License No.: 02500510004 Amendment No.: 9 License Reviewer: SD
File No.: 8 Licensee: Tri State Urologic Services Type of Action: New Date Issued: 10/11/13	License No.: 02200310050 Amendment No.: 0 License Reviewer: DC

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License Casework Reviews

D. 2

File No.: 9

Licensee: Fairview Hospital

Type of Action: Renewal

Date Issued: 9/27/13

License No.: 02120180101

Amendment No.: 15

License Reviewer: DC

File No.: 10

Licensee: Oncology/Hematology Care, Inc.

Type of Action: Amendment

Date Issued: 9/18/13

License No.: 02230310001

Amendment No.: 15

License Reviewer: RB

File No.: 11

Licensee: Cleveland State University

Type of Action: Amendment

Date Issued: 4/30/12

License No.: 01110130017

Amendment No.: 9

License Reviewer: SD

File No.: 12

Licensee: Ohio University

Type of Action: Amendment

Date Issued: 9/26/12

License No.: 01100050003

Amendment No.: 22

License Reviewer: SD

File No.: 13

Licensee: University Hospitals of Cleveland

Type of Action: Amendment

Date Issued: 2/12/10

License No.: 02110180077

Amendment No.: 24

License Reviewer: AC

File No.: 14

Licensee: Team Industrial Services

Type of Action: Amendment

Date Issued: 6/2/11

License No.: 03320990000

Amendment No.: 18

License Reviewer: PB

File No.: 15

Licensee: Hi-Tech Testing Services

Type of Action: Amendment

Date Issued: 12/10/12

License No.: 03320770023

Amendment No.: 1

License Reviewer: SK

File No.: 16

Licensee: MISTRAS Group

Type of Action: Renewal

Date Issued: 9/26/13

License No.: 03320460000

Amendment No.: 18

License Reviewer: PB

File No.: 17

Licensee: Triad Isotopes

Type of Action: Termination

Date Issued: 12/17/12

License No.: 02500250072

Amendment No.: 39

License Reviewer: KA

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License Casework Reviews

D. 3

File No.: 18

Licensee: Elite Inspection
Type of Action: Termination
Date Issued: 11/18/09

License No.: 03320990005
Amendment No.: 6
License Reviewer: KVA

File No.: 19

Licensee: Deaconess Hospital
Type of Action: Termination
Date Issued: 2/8/11

License No.: 02120310012
Amendment No.: 17
License Reviewer: KVA

File No.: 20

Licensee: Viewray Incorporated
Type of Action: Amendment
Date Issued: 8/19/11

License No.: 03214180005
Amendment No.: 6
License Reviewer: CS

File No.: 21

Licensee: Phillips Medical Systems
Type of Action: Amendment
Date Issued: 6/8/12

License No.: 03214180003
Amendment No.: 41
License Reviewer: SD

File No.: 22

Licensee: Akron Gamma Medical
Type of Action: Amendment
Date Issued: 5/14/12

License No.: 02120780000
Amendment No.: 32
License Reviewer: AC

File No.: 23

Licensee: Jewish Hospital, LLC
Type of Action: Amendment
Date Issued: 10/15/12

License No.: 02120310029
Amendment No.: 23
License Reviewer: DC

File No.: 24

Licensee: Jewish Hospital, LLC
Type of Action: Amendment
Date Issued: 2/8/13

License No.: 02120310029
Amendment No.: 25
License Reviewer: DC

Comment:

AMP added to the license without proper documentation of educational requirement.
The program identified the AMP listed on another license in 2011 with proper educational requirements.

File No.: 25

Licensee: Nationwide Children's Hospital
Type of Action: Amendment - Variance
Date Issued: 5/28/13

License No.: 02110250012
Amendment No.: 18
License Reviewer: AC

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License Casework Reviews

D. 4

File No.: 26
Licensee: Advanced Medical Systems, Inc
Type of Action: Amendment
Date Issued: 3/20/13

License No.: 03900180000
Amendment No.: 12
License Reviewer: JC

File No.: 27
Licensee: Mercy Hospital – Mt. Airy
Type of Action: Amendment
Date Issued: 11/25/13

License No.: 02120310000
Amendment No.: 14
License Reviewer: RB

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1

Licensee: Community Regional Medical Center

Date of Incident: 12/10/08

Investigation Date: 12/22/08

License No.: 02120480002

NMED No.: 080891

Type of Incident: Contamination

Type of Investigation: Site

File No.: 2

Licensee: University Hospitals of Cleveland

Date of Incident: 12/15/08

Investigation Date: 3/19/09

License No.: 02110180077

NMED No.: 090443

Type of Incident: Equipment Failure

Type of Investigation: Site

Comment:

The licensee did not report the incident. It was discovered during an inspection by ODH.

File No.: 3

Licensee: Urology Center

Date of Incident: 5/11/09

Investigation Date: 6/12/09

License No.: 02200310002

NMED No.: 090497

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 4

Licensee: Acuren Inspection, Inc.

Date of Incident: 6/26/09

Investigation Date: 6/26/09

License No.: 03320990006

NMED No.: 090572

Type of Incident: Equipment Failure

Type of Investigation: Telephone

File No.: 5

Licensee: PetroChem Inspection Services

Date of Incident: 6/9/09

Investigation Date: 7/1/09

License No.: 03320990001

NMED No.: 090612

Type of Incident: Equipment Failure

Type of Investigation: Site

File No.: 6

Licensee: Meridian Automotive Systems, Inc.

Date of Incident: 8/25/09

Investigation Date: 8/26/09

License No.: N/A

NMED No.: 090694

Type of Incident: Lost RAM

Type of Investigation: Site

File No.: 7

Licensee: Scott Process Systems, Inc.

Date of Incident: 10/6/09

Investigation Date: 11/18/09

License No.: 03320770000

NMED No.: 090852

Type of Incident: Damaged Equipment

Type of Investigation: Telephone

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Incident Casework Reviews

E. 2

File No.: 8

Licensee: The Jewish Hospital

Date of Incident: 1/21/10

Investigation Date: 2/4/10

License No.: 02120310029

NMED No.: 100049

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 9

Licensee: The Jewish Hospital

Date of Incident: 12/28/09

Investigation Date: 2/4/10

License No.: 02120310029

NMED No.: 100053

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 10

Licensee: JANX Integrity Group

Date of Incident: 4/9/10

Investigation Date: 4/19/10

License No.: 03320990002

NMED No.: 100178

Type of Incident: Overexposure

Type of Investigation: Site

File No.: 11

Licensee: Ohio State University Medical Center

Date of Incident: 4/16/10

Investigation Date: 4/21/10

License No.: 02110250037

NMED No.: 100209

Type of Incident: Overexposure

Type of Investigation: Site

File No.: 12

Licensee: Tiffin Mercy Hospital

Date of Incident: 12/10/08

Investigation Date: 5/4/10

License No.: 02120750001

NMED No.: 100480

Type of Incident: Medical Event

Type of Investigation: Site

Comment:

The licensee did not report the incident. It was discovered during an audit required by ODH.

File No.: 13

Licensee: Cleveland Clinic Foundation

Date of Incident: 9/27/10

Investigation Date: 9/28/10

License No.: 02110180013

NMED No.: 100483

Type of Incident: Medical Event

Type of Investigation: Telephone

File No.: 14

Licensee: Clinton Memorial Hospital

Date of Incident: 5/20/09

Investigation Date: 9/10/10

License No.: 02120140000

NMED No.: 100501

Type of Incident: Medical Event

Type of Investigation: Site

Comment:

The licensee did not report the incident. It was discovered during and inspection by ODH.

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Incident Casework Reviews

E. 3

File No.: 15

Licensee: Riverside Methodist Hospital

Date of Incident: 4/6/10

Investigation Date: 7/28/10

License No.: 02120250070

NMED No.: 100510

Type of Incident: Medical Event

Type of Investigation: Site

Comment:

The licensee did not report the incident. It was discovered during an inspection by ODH.

File No.: 16

Licensee: Cleveland Clinic Foundation

Date of Incident: 10/26/10

Investigation Date: 11/3/10

License No.: 02110180013

NMED No.: 100543

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 17

Licensee: Private Individual

Date of Incident: 10/31/11

Investigation Date: 11/1/11

License No.: N/A

NMED No.: 110599

Type of Incident: Lost RAM

Type of Investigation: Site

File No.: 18

Licensee: University of Toledo

Date of Incident: 12/19/11

Investigation Date: 1/12/12

License No.: 0211049006

NMED No.: 120050

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 19

Licensee: Trinity Medical Center

Date of Incident: 8/24/12

Investigation Date: 9/25/12

License No.: 02120420003

NMED No.: 120498

Type of Incident: Leaking Source

Type of Investigation: Site

File No.: 20

Licensee: Acuren Inspection, Inc.

Date of Incident: 7/24/12

Investigation Date: 9/5/12

License No.: 03320990006

NMED No.: 120522

Type of Incident: Equipment Failure

Type of Investigation: Site

File No.: 21

Licensee: Southern Ohio Medical Center

Date of Incident: 11/21/12

Investigation Date: 12/6/12

License No.: 02300740000

NMED No.: 120696

Type of Incident: Equipment Failure

Type of Investigation: Telephone

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Incident Casework Reviews

E. 4

File No.: 22

Licensee: University of Toledo

Date of Incident: 11/27/12

Investigation Date: 12/19/12

License No.: 02110490006

NMED No.: 130001

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 23

Licensee: Akron General Medical Center

Date of Incident: 3/19/13

Investigation Date: 3/29/13

License No.: 02120780000

NMED No.: 130142

Type of Incident: Medical Event

Type of Investigation: Site

File No.: 24

Licensee: Private Individual

Date of Incident: 4/19/13

Investigation Date: 4/21/13

License No.: N/A

NMED No.: 130216

Type of Incident: Lost RAM

Type of Investigation: Site

File No.: 25

Licensee: Cleveland Clinic Foundation

Date of Incident: 5/9/13

Investigation Date: 10/8/13

License No.: 02110180013

NMED No.: 130438

Type of Incident: Medical Event

Type of Investigation: Site

Comment:

Late notification by the licensee.

File No.: 26

Licensee: Wittenberg University

Date of Incident: 1/9/13

Investigation Date: 1/23/13

License No.: 01120120000

NMED No.: 130460

Type of Incident: Leaking Source

Type of Investigation: Telephone

File No.: 27

Licensee: Mount Carmel Health System

Date of Incident: 10/25/13

Investigation Date: 11/14/13

License No.: 02120250034

NMED No.: 130530

Type of Incident: Medical Event

Type of Investigation: Site

APPENDIX F

SEALED SOURCE AND DEVICE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1	
Registry No.: OH-0522-D-120-B	SS&D Type: (D) Gamma Gauge
Applicant Name: Ohmart/VEGA	Type of Action: Amendment
Date issued: 11/3/08	Reviewers: KVA, KB

File No.: 2	
Registry No.: OH-0298-S-102-S	SS&D Type: (H) General Neutron Source/ (W) Well Logging
Applicant Name: Frontier Technology Corporation	Type of Action: Amendment
Date issued: 4/3/09	Reviewers: KB, SD

File No. 3	
Registry No.: OH-0522-D-120-B	SS&D Type: (D) Gamma Gauge
Applicant Name: Ohmart/VEGA	Type of Action: Amendment
Date issued: 5/8/09	Reviewers: KVA, SD

File No.: 4	
Registry No.: OH-8211-D-801-G	SS&D Type: (W) Self Luminous Light Source
Applicant Name: Best Lighting Products, Inc.	Type of Action: Inactivation
Date issued: 8/5/09	Reviewers: KVA, SD

File No.: 5	
Registry No.: OH-0522-D-120-B	SS&D Type: (D) Gamma Gauge
Applicant Name: Ohmart/VEGA	Type of Action: Amendment
Date issued: 8/20/09	Reviewers: KVA, SD

Comment:
Drawing/diagram not included in the registration certificate.

File No.: 6	
Registry No.: OH-0522-S-109-S	SS&D Type: (D) Gamma Gauge
Applicant Name: Ohmart/VEGA	Type of Action: Amendment
Date issued: 8/24/09	Reviewers: KB, SD

File No.: 7	
Registry No.: OH-0522-D-102-B	SS&D Type: (D) Gamma Gauge
Applicant Name: VEGA Americas Corporation	Type of Action: Amendment
Date issued: 9/01/09	Reviewers: KVA, SD

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Sealed Source and Device Casework Reviews

F. 2

File No.: 8

Registry No.: OH-8208-S-801-S

Applicant Name: Advanced Medical Systems

Date issued: 9/22/09

SS&D Type: (AD) Photo Emitting Teletherapy

Type of Action: Inactivation

Reviewers: KVA, SD

File No.: 9

Registry No.: OH-8208-D-802-S

Applicant Name: Advanced Medical Systems

Date issued: 11/13/09

SS&D Type: (AD) Photo Emitting Teletherapy

Type of Action: Inactivation

Reviewers: KVA, KB

File No.: 10

Registry No.: OH-8208-D-803-S

Applicant Name: Advanced Medical Systems

Date issued: 11/13/09

SS&D Type: (AD) Photo Emitting Teletherapy

Type of Action: Inactivation

Reviewers: KVA, KB

File No.: 11

Registry No.: OH-1090-D-103-B

Applicant Name: Automation and Control Tech.

Date issued: 2/16/10

SS&D Type: (E) Beta Gauge

Type of Action: Amendment

Reviewers: KVA, SD

File No.: 12

Registry No.: OH-0522-D-120-B

Applicant Name: Ohmart/VEGA Corp

Date issued: 10/14/10

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: KVA, SD

File No.: 13

Registry No.: OH-0522-D-112-S

Applicant Name: VEGA Americas Corporation

Date issued: 11/01/10

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: KVA, SD

File No.: 14

Registry No.: OH-1033-D-101-B

Applicant Name: IRM Group, Inc.

Date issued: 11/05/10

SS&D Type: (D)Gamma Gauge, (E)Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 15

Registry No.: OH-0522-D-120-B

Applicant Name: VEGA Americas Corporation

Date issued: 1/7/11

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: KVA, SD

File No.: 16

Registry No.: OH-0522-D-116-S

Applicant Name: VEGA Americas Corporation

Date issued: 2/4/11

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: KVA, SD

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F. 3

File No.: 17

Registry No.: OH-1090-D-103-B

Applicant Name: Automation and Control Tech.

Date issued: 11/1/11

SS&D Type: (E) Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 18

Registry No.: OH-0522-D-120-B

Applicant Name: VEGA

Date issued: 7/5/12

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 19

Registry No.: OH-0109-S-125-S

Applicant Name: ABB, Inc.

Date issued: 7/17/12

SS&D Type: (R) Gas Source

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 20

Registry No.: OH-0109-S-126-S

Applicant Name: ABB, Inc.

Date issued: 7/17/12

SS&D Type: (T) Other

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 21

Registry No.: OH-1346-D-101-S

Applicant Name: ViewRay, Inc.

Date issued: 8/17/12

SS&D Type: (AD) Teletherapy (AE) Gamma Device

Type of Action: New

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 22

Registry No.: OH-0522-D-102-B

Applicant Name: VEGA Americas Corporation

Date issued: 10/29/12

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 23

Registry No.: OH-0522-D-111-S

Applicant Name: VEGA Americas Corporation

Date issued: 11/20/12

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

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F. 4

File No.: 24

Registry No.: OH-0109-D-121-B

Applicant Name: ABB, Inc.

Date issued: 11/30/2012

SS&D Type: (D)Gamma Gauge, (E)Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 25

Registry No.: OH-0109-D-122-B

Applicant Name: ABB, Inc.

Date issued: 12/3/12

SS&D Type: (D)Gamma Gauge, (E)Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 26

Registry No.: OH-0109-D-123-B

Applicant Name: ABB, Inc.

Date issued: 12/3/12

SS&D Type: (D)Gamma Gauge, (E)Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 27

Registry No.: OH-0109-D-124-B

Applicant Name: ABB, Inc.

Date issued: 12/3/12

SS&D Type: (D)Gamma Gauge, (E)Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 28

Registry No.: OH-0109-S-127-S

Applicant Name: ABB, Inc.

Date issued: 12/3/12

SS&D Type: (T) Other Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 29

Registry No.: OH-0109-S-128-S

Applicant Name: ABB, Inc.

Date issued: 12/3/12

SS&D Type: (T) Other Beta Gauge

Type of Action: Amendment

Reviewers: SD, KVA

File No.: 30

Registry No.: OH-1219-D-104-S

Applicant Name: Thermo Eberline LLC

Date issued: 12/14/12

SS&D Type: (Y) Calibrator

Type of Action: New

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

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File No.: 31

Registry No.: OH-1219-D-102-S

Applicant Name: Thermo Eberline LLC

Date issued: 12/14/12

SS&D Type: (Y) Calibrator

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 32

Registry No.: OH-0522-D-111-S

Applicant Name: VEGA Americas Corporation

Date issued: 3/5/13

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 33

Registry No.: OH-0522-D-112-S

Applicant Name: VEGA Americas Corporation

Date issued: 3/7/13

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 34

Registry No.: OH-0522-D-102-B

Applicant Name: VEGA Americas Corporation

Date issued: 3/26/13

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.

File No.: 35

Registry No.: OH-0522-D-111-S

Applicant Name: VEGA Americas Corporation

Date issued: 5/29/13

SS&D Type: (D) Gamma Gauge

Type of Action: Amendment

Reviewers: SD, KVA

Comment:

Missing dimension labels on the attached diagrams/drawings.