



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

September 1, 2016

Richard E. Dunn, Director  
Department of Natural Resources  
Environmental Protection Division  
2 Martin Luther King Jr. Drive, Suite 1456  
Atlanta, GA 30334

Dear Mr. Dunn:

On August 4, 2016, a Management Review Board (MRB), which consisted of U.S. Nuclear Regulatory Commission (NRC) senior managers and an Organization of Agreement States liaison to the MRB, met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Georgia Agreement State Program. The MRB found the Georgia program adequate to protect public health and safety, and compatible with the NRC's program.

The enclosed final report contains a summary of the IMPEP team's findings and recommendations (Section 5.0). The review team identified performance issues in the indicators of Status of the Materials Inspection Program (Section 3.2), Technical Quality of Inspections (Section 3.3), and Technical Quality of Licensing actions (Section 3.4) that are attributed to staff turnover. The MRB recommends that the Georgia Agreement State Program management develop a strategy to address staff retention and implement corrective actions to mitigate the causes of the turnover to ensure satisfactory performance is sustained. The MRB acknowledges the performance improvements Georgia has made since 2012. As such, the MRB determined that the period of heightened oversight be discontinued and a period of monitoring be initiated until such time as the Georgia Agreement State Program has demonstrated a sustained period of satisfactory performance. Monitoring is an informal process that allows the NRC to maintain an increased level of communication with an Agreement State program.

Based on the results of the current IMPEP review, the next full review of the Georgia Agreement State Program will take place in approximately 4 years, with a periodic meeting tentatively scheduled for May 2017, and a second periodic meeting in the November 2018 timeframe. These periodic meetings will include a focused discussion of Georgia's actions taken to address the recommendations in the enclosed report.

Enclosure:  
Georgia IMPEP Final Report

cc: See next page

I appreciate the courtesy and cooperation extended to the IMPEP team during the review. I also wish to acknowledge your continued support for the Agreement State program. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely,

*/RA/*

Glenn M. Tracy  
Deputy Executive Director for Materials, Waste,  
Research, State, Tribal, Compliance, Administration,  
and Human Capital Programs  
Office of the Executive Director for Operations

cc: Karen Hays, P.E., Chief  
Air Protection Branch

David Walter, AL  
Organization of Agreement States  
Liaison to the MRB

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**ADAMS Accession Number: ML16223A001**

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Letter to Richard Dunn from Glenn Tracy, dated September 1, 2016

SUBJECT: GEORGIA FY2016 FINAL IMPEP REPORT

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
REVIEW OF THE GEORGIA AGREEMENT STATE PROGRAM

MAY 9–12, 2016

**FINAL REPORT**

Enclosure

## EXECUTIVE SUMMARY

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Georgia Agreement State Program. The review was conducted during the period of May 9–12, 2016, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Texas.

Based on the results of this review, Georgia's performance was found satisfactory for five out of six performance indicators: Technical Staffing and Training, Status of the Materials Inspection Program, Technical Quality of Inspections, Technical Quality of Incidents and Allegation Activities, and Compatibility Requirements. The Technical Quality of Licensing Actions performance indicator was found satisfactory, but needs improvement.

The review team made three new recommendations (see Section 5.0) and determined that the three recommendations from the 2014 IMPEP review should be closed (see Section 2.0). Upon its deliberations, the Management Review Board (MRB) issued two additional recommendations to Georgia to bolster performance in the areas of staff retention and reciprocity inspections (Sections 3.1 and 3.2). With respect to staffing, the Technical Staffing and Training indicator was found satisfactory in 2014 and 2016. Because staff turnover led to negative performance trends in some areas of licensing and inspection over the 2016 review period, the MRB issued a recommendation to the Georgia Agreement State Program management to develop a strategy to address staff retention and implement corrective actions to ensure satisfactory program performance is sustained.

The review team recommended, and the MRB agreed, that the period of heightened oversight be discontinued and a period of monitoring be initiated until such time as the Georgia Agreement State Program has demonstrated a sustained period of satisfactory performance.

Accordingly, the review team recommended, and the MRB agreed, that the Georgia Agreement State Program is adequate to protect public health and safety and compatible with the NRC's program. The review team recommended, and the MRB agreed, that the next IMPEP review take place in approximately 4 years. The MRB directed that a periodic meeting be held 1 year from this review with a second meeting approximately 18 months after the first periodic meeting. These periodic meetings will include a focused discussion of Georgia's actions taken to address the recommendations in the enclosed report.

## 1.0 INTRODUCTION

This report presents the results of the review of the Georgia Agreement State Program. The review was conducted during the period of May 9–12, 2016, by a review team composed of technical members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Texas. 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 (MD 5.6), “Integrated Materials Performance Evaluation Program (IMPEP),” dated February 26, 2004. Preliminary results of the review, which covered the period of February 11, 2014, through May 12, 2016, were discussed with Georgia managers on the last day of the review.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to Georgia on December 4, 2015. Georgia provided its response to the questionnaire on April 21, 2016. A copy of the questionnaire response can be found in the NRC’s Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML16140A116.

A draft of this report was issued to Georgia on June 13, 2016, for factual comment. Georgia responded to the findings and conclusions of the review by letter dated June 29, 2016. A copy of Georgia’s response can be found in ADAMS using the Accession Number ML16194A001. A Management Review Board (MRB), which consisted of NRC senior managers and an Organization of Agreement States liaison to the MRB, met on August 4, 2016, to consider the proposed final report. The MRB found the Georgia Agreement State Program adequate to protect public health and safety, and compatible with the NRC’s program.

The Georgia Agreement State Program is administered by the Radioactive Materials Program (the Program). The Program is located in the Air Protection Branch (the Branch) of the Environmental Protection Division of the Georgia Department of Natural Resources (the Department). Organization charts for the State can be found in ADAMS using the Accession Number ML16116A122.

At the time of the review, the Program regulated 433 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 Georgia.

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 Georgia Agreement State Program’s performance.

## 2.0 PREVIOUS IMPEP REVIEW AND STATUS OF RECOMMENDATIONS

The previous IMPEP review concluded on February 10, 2014. The final report is available in ADAMS (Accession Number ML14121A618). The results of the previous review and the status of the recommendations are as follows:

Technical Staffing and Training: Satisfactory  
Recommendation: None

Status of Materials Inspection Program: Unsatisfactory  
Recommendation: None

Technical Quality of Inspections: Satisfactory but Needs Improvement  
Recommendation 1: The review team recommends that the State: (1) implement its inspection procedures to ensure that inspectors document the reason for missing temporary job site inspections; document details and circumstances of violations in inspection reports and Notices of Violations (NOV); consider a reduction (or increase) in inspection frequency for serious violations and conduct performance based inspections; and (2) complete its enforcement procedure for assigning severity levels of violations. (Section 3.3 of the 2014 IMPEP Report)

Status: For part one of this recommendation, the review team examined inspection reports for licensees that were authorized for temporary job sites. The review team determined that, if applicable, the reasons for missing temporary job site inspections, such as the sites were not available during the inspection, were documented in the inspection reports. The review team determined that violations were well documented in inspection reports and in the NOV's issued to licensees. The NOV's included statements of the regulation and provided the circumstances of the violations. In addition, the review team determined that the Program manager reviews all violations when the inspectors return to the office. Significant enforcement actions involving public health and safety are discussed by the Program manager and inspectors, and changes to the inspection frequencies are considered. Based on the inspector accompaniments and interviews with the inspectors and Program manager, the review team determined that the Program's inspectors conduct performance based inspections. For part two of this recommendation, the review team determined that the Program has completed and implemented its enforcement procedure for assigning severity levels of violations. The review team recommended, and the MRB agreed, that this recommendation be closed.

Technical Quality of Licensing Actions: Satisfactory  
Recommendation 2: The review team recommends that the State verify that all previously approved medical authorized users have proper documentation of their qualifications, since the new requirements were initiated in 2008. (Section 3.4 of the 2012 and 2014 IMPEP Reports)

Status: The Program contacted all authorized users/licensees and either obtained the necessary documentation or amended the licenses as needed for all but three authorized users, as of the date of the review. An amendment was pending to remove those users from the applicable license. To track its progress in obtaining the necessary documentation, the Program created a spreadsheet of all authorized users which is now used by staff to verify that training and experience have been documented prior to adding an authorized user to a license. The review team recommended, and the MRB agreed, that this recommendation be closed.

Recommendation 3: The review team recommends that the State finalize its procedure for pre-licensing requirements and provide training to the staff on the revised procedure. (Section 3.4 of the 2014 IMPEP Report)

Status: The Program revised its licensing procedures in May 2014 to include pre-licensing requirements and held training for staff on this procedure in July 2014. The review team recommended, and the MRB agreed, that this recommendation be closed.

Technical Quality of Incident and Allegation Activities: Satisfactory  
Recommendation: None

Compatibility Requirements: Satisfactory  
Recommendation: None

2014 Overall Finding: Adequate to protect public health and safety, but needs improvement, and Compatible with the NRC's program.

The Georgia Agreement State Program was removed from probation and placed on heightened oversight following the 2014 IMPEP review.

### 3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review the 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

The ability to conduct effective licensing and inspection programs is largely dependent on having a sufficient number of experienced, knowledgeable, well-trained technical personnel. Under certain conditions, staff turnover could have an adverse effect on the implementation of these programs, and thus could affect public health and safety. Apparent trends in staffing must be explored. Review of staffing also requires a consideration and evaluation of the levels of training and qualification. The evaluation standard measures the overall quality of training available to, and taken by, materials program personnel.

##### a. Scope

The review team used the guidance in State Agreements procedure SA-103, "Reviewing the Common Performance Indicator: Technical Staffing and Training," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.

- Agreement State training and qualification program is equivalent to NRC Inspection Manual Chapters (IMC) 1248, “Formal Qualifications Program for Federal and State Material and Environmental Management Programs.”
- Qualification criteria for new technical staff are established and are being followed or that qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior level positions, are filled in a timely manner.
- There is a balance in staffing of the licensing and inspection programs.
- Management is committed to training and staff qualification.
- Individuals performing materials licensing and inspection activities are adequately qualified and trained to perform their duties.
- License reviewers and inspectors are trained and qualified in a reasonable period of time.

b. Discussion

The Program is composed of 13 staff members, with approximately 10 full-time equivalents dedicated to the radioactive materials program. Of the 13 staff, 4 staff have primary duties associated with emergency response, so only a portion of their time is directed to the radioactive materials program. At the time of the review, there were no vacancies in the Program. However, during the review period, five staff members left the Program for various reasons. One staff member was released because of performance issues, three staff members found employment elsewhere, and one staff member left for personal reasons. The Program filled the resulting vacancies by hiring five new staff members. An additional emergency response position was also filled, with the intent that this staff member would seek qualification to support the radioactive materials program. All open positions were filled within the review period, with individual positions taking between 3–6 months to fill. Because of the turnover of staff during the review period, staff retention was discussed with the Branch chief and Program manager. The Branch chief indicated that pay increases were being considered for staff to aid in staff retention. In addition, the Program manager was attempting to reclassify staff positions as “Health Physicists,” to also help increase staff salaries. At the time of the MRB, the Branch chief confirmed that salary increases were made for the majority of the Branch.

Georgia has a training and qualification manual compatible to the NRC’s IMC 1248. Due to the turnover in staff during the review period, the Program only had three fully qualified staff in the radioactive materials group at the time of review. However, one of the emergency response staff in the environmental group is qualified and is assisting with radioactive materials inspections and licensing. In addition, some of the new staff had received interim qualification to perform certain inspection and licensing activities. It was expected that all new staff will be fully qualified for all license types within 2 years of being hired.

c. Evaluation

The review team determined that during the review period the Program met the performance indicator objectives listed in Section 3.1.a. However, the MRB discussed Georgia’s turnover of staff and how this trend had impacted staff training and qualifications. The review team had identified performance issues in the indicators of Status of the Materials Inspection Program (Section 3.2), Technical Quality of

Inspections (Section 3.3) and Technical Quality of Licensing actions (Section 3.4) that are attributed to staff turnover. The MRB recommended that the Program management develop a strategy to address staff retention and implement corrective actions to mitigate the causes of the Program's turnover to ensure satisfactory program performance is sustained.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommended, and the MRB agreed, that Georgia's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

3.2 Status of the Materials Inspection Program

Periodic inspections of licensed operations are essential to ensure that activities are being conducted in compliance with regulatory requirements and consistent with good safety practices. The frequency of inspections is specified in NRC IMC 2800, "Materials Inspection Program," and is dependent on the amount and kind of material, the type of operation licensed, and the results of previous inspections. There must be a capability for maintaining and retrieving statistical data on the status of the inspection program.

a. Scope

The review team used the guidance in State Agreements procedure SA-101, "Reviewing the Common Performance Indicator: Status of the Materials Inspection Program," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Initial inspections and inspections of Priority 1, 2, and 3 licensees are performed at the frequency prescribed in IMC 2800.
- Candidate licensees working under reciprocity are inspected in accordance with the criteria prescribed in IMC 1220, Processing of NRC Form 241, "Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, and Offshore Waters, and Inspection of Agreement State Licensees Operating Under 10 CFR 150.20."
- Deviations from inspection schedules are normally coordinated between technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections, or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Inspection findings are communicated to licensees in a timely manner (30 calendar days, or 45 days for a team inspection, as specified in IMC 0610, "Nuclear Material Safety and Safeguards Inspection Reports").

b. Discussion

The Program conducted a total of 143 Priority 1, 2, 3, and initial inspections during the review period. Eleven of 123 Priority 1, 2, or 3 inspections were conducted overdue. All initial inspections of new licenses were performed within 12 months of license issuance. Overall for the review period, the Program conducted 7.7 percent of Priority 1, 2, 3, and

initial inspections overdue. This was a significant improvement over the Program's overdue rate of 53 percent during the 2014 IMPEP review period. In addition, as the Program has prioritized and conducted overdue inspections, 11 overdue inspections from the 2014 IMPEP review period were conducted during the current IMPEP review period.

The Program's inspectors are expected to issue inspection reports within 30 days from the end of an inspection. A review of the database records for Priority 1, 2, and 3 inspections performed during the review period indicated that 16 inspection reports were issued anywhere from 1 to 34 days beyond the Program's goal of 30 days. Of the 16 inspection reports issued late, 8 were issued by former inspectors that are no longer with the Program.

For each year of the review period, the Program did not perform greater than 20 percent of candidate reciprocity inspections. In 2014, the Program completed 14 percent (7 of 48) of the reciprocity inspections available; in 2015, 9 percent (2 of 22); and in 2016, at the time of the IMPEP review, the Program had not performed any reciprocity inspections (0 of 26).

c. Evaluation

The review team determined that during the review period, the Program met the performance indicator objectives listed in Section 3.2.a, with the following exception.

The loss of qualified inspection staff and the Program's previous process which allowed inspectors to choose reciprocity inspections at their discretion without adequate management oversight contributed to the Georgia's failure to conduct at least 20 percent of the candidate reciprocity inspections in each year of the review period. Georgia management acknowledged that the loss of qualified staff shifted additional workload onto the remaining qualified inspectors. As a result, Georgia management focused inspection work on completing inspections of higher risk significant radioactive materials used by Georgia licensees. The Program manager indicated to the review team that corrective actions were implemented just prior to the review team's arrival. Some of the corrective actions implemented by the program manager include: (1) assigning specific reciprocity inspections to each qualified inspector; (2) a periodic review of the status of reciprocity inspections throughout the year; and (3) a review of reciprocity inspections completed by each inspector during the inspector's performance evaluation each year. As new staff members become qualified inspectors, additional reciprocity inspections can be completed to ensure that at least 20 percent of candidate reciprocity inspections are performed.

The review team did not make a recommendation for the low number of reciprocity inspections completed each year of the review period because the Program manager had implemented corrective actions noted above to address the issue. Despite completing five reciprocity inspections since the onsite review, the MRB discussed that Georgia has not had sufficient time to show sustained performance with regard to the corrective actions taken just prior to the onsite IMPEP review concerning reciprocity. The MRB recommended that Program management implement corrective actions and make necessary adjustments to ensure satisfactory program performance is sustained with regard to reciprocity inspections.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommended, and the MRB agreed, that Georgia's performance with respect to the indicator, Status of the Materials Inspection Program, be found satisfactory.

3.3 Technical Quality of Inspections

Inspections, both routine and reactive, provide assurance that licensee activities are carried out in a safe and secure manner. Accompaniments of inspectors performing inspections, and the critical evaluation of inspection records are used to assess the technical quality of a program's inspection capability.

a. Scope

The review team used the guidance in State Agreements procedure SA-102, "Reviewing the Common Performance Indicator: Technical Quality of Inspections," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Inspections of licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors conduct annual accompaniments of each inspector to assess performance and assure consistent application of inspection policies.
- For programs with separate licensing and inspection staffs, to verify that procedures are established and followed to provide feedback information to license reviewers.
- For Agreement States, to determine if inspection guides are consistent with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

b. Discussion

The review team evaluated the inspection reports, enforcement documentation, and interviewed inspectors for 19 materials inspections conducted during the review period. The casework reviewed included inspections conducted by seven of the Program's former and current inspectors and covered medical, industrial, commercial, academic, research, and service licenses. The inspection casework and inspector accompaniments were also assessed for implementation of security requirements for risk significant material, as applicable.

Review team members accompanied five Program inspectors during the week of February 8-12, 2016. The Program inspectors were accompanied during health, safety, and security inspections of medical therapy institutions (high dose rate remote afterloader (HDR) and permanent brachytherapy), industrial radiography, manufacturer

and distribution, and portable gauges. The inspector accompaniments are identified in Appendix B.

Supervisory accompaniments for all qualified inspectors were performed during the review period.

c. Evaluation

The review team determined that during the review period, the Program met the performance indicator objectives listed in Section 3.3.a, with the following exceptions. During the inspection accompaniments of the Program's inspectors, the review team determined that four out of five inspectors demonstrated appropriate inspection techniques, conducted performance-based inspections, and focused on health, safety, and security issues. However, during the medical (HDR and permanent brachytherapy) inspection accompaniment, the review team determined that the inspector did not verify whether the licensee had any medical events through examination of the written directives (prescribed vs. administered dose). The review team member observed that the licensee's authorized medical physicist (AMP) had dated and signed, in advance, several verification sections for proper implementation of a written directive. One of the verification sections that was already dated and signed was for the verification of a patient's identity that had not yet been seen and was scheduled for treatment later that day. The review team member further observed that the licensee lacked the procedures for proper administration of a written directive. The review team member communicated these observations to the inspector; however, the inspector did not question the AMP regarding the pre-filled written directive form or the licensee's lack of procedures. The inspector did not consider the lack of procedures to be an issue; however, this appeared to be a violation of Georgia's regulation for requiring written directive procedures. Additionally, the review team determined that the inspector missed a performance-based inspection opportunity by concluding the inspection prior to observing a manual brachytherapy procedure scheduled for later that day.

The 2014 IMPEP report identifies and discusses similar performance issues with brachytherapy inspections which were not corrected by the Program. The review team recommends that the Program develop and implement training for inspectors on the examination of the written directives, and NRC Inspection Procedure 87132, Brachytherapy Program. The Program demonstrated appropriate inspection technique for the other license types assessed by the IMPEP team on inspection accompaniments. Because the performance issues concerned the inspection of only one type of brachytherapy procedure, the review team determined the Program met a satisfactory level of performance overall for technical quality of inspections. The review team found that inspections are usually well founded and well documented.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommended, and the MRB agreed, that Georgia's performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

### 3.4 Technical Quality of Licensing Actions

The quality, thoroughness, and timeliness of licensing actions can have a direct bearing on public health and safety, and security. An assessment of licensing procedures, actual implementation of these procedures, and documentation of communications and associated actions between the Georgia licensing staff and regulated community will be a significant indicator of the overall quality of the program.

#### a. Scope

The review team used the guidance in State Agreements procedure SA-104, "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Essential elements of license applications have been submitted and elements meet current regulatory guidance (e.g., financial assurance, increased controls, pre-licensing guidance).
- License reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and are inspectable.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Applicable guidance documents are available to reviewers and are followed (e.g., NUREG-1556 series, pre-licensing guidance, regulatory guides, etc.).
- Licensing practices for risk significant radioactive materials are appropriately implemented including increased controls and fingerprinting orders (Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled and secured.

#### b. Discussion

During the review period, the Program performed 889 radioactive materials licensing actions. The review team evaluated 14 radioactive materials licensing actions, including 5 new applications, 4 amendments, 1 renewal, and 2 terminations. The review team also reviewed a financial assurance action and a decommissioning action. The casework sampled represented work from a total of seven current and former license reviewers.

The review team evaluated casework which included the following license types and actions: medical diagnostic and therapy, commercial manufacturing and distribution, industrial radiography, academic, nuclear pharmacy, gamma knife, decommissioning action and financial assurance.

License reviewers perform license reviews following the Program's licensing guidance which is comparable to the NRC's NUREG-1556 series, "Consolidated Guidance About

Materials Licenses.” All actions are peer reviewed and licenses signed by a qualified license reviewer. Licenses are issued for a 5-year period under a timely renewal system.

c. Evaluation

The review team determined that during the review period, the Program did not fully meet the performance indicator objectives listed in Section 3.4.a. The team identified weakness with essential elements of license application, analysis of inspection history, and technical quality.

The review team identified three licensing actions that designated an authorized user on a medical license as the Radiation Safety Officer (RSO) without the license reviewer obtaining a preceptor RSO attestation or documenting that the authorized user had training in the radiation safety, regulatory issues and emergency procedures appropriate for the license. Interviews with staff indicated they were not aware of all of the requirements for adding an RSO to a medical license. The Program staff did obtain RSO preceptor attestations for a few designated RSOs as part of their work to document training and experience for all authorized users but they discontinued this practice for unknown reasons. The review team recommends that the Program verify that all previously approved radiation safety officers for medical licenses have an attestation by a preceptor RSO, and that the individual has completed training in the radiation safety, regulatory issues and emergency procedures for the appropriate license type.

The review team found that a new license application for the use of unsealed radioactive material requiring a written directive contained procedures for occupational monitoring, area surveys, safe use of unsealed radioactive material, and waste management that were accepted by the reviewer, but did not meet the Program’s regulatory guidance. Additionally, a license renewal action resulted in the removal of a strontium-90 sealed source and authorization for manual brachytherapy sealed sources from the license without documentation of transfer or disposal. The renewal action did not document a review of the licensee’s inspection or enforcement history. Interviews with staff indicated that a review of inspection and enforcement history is not always performed and is not documented.

An amendment request by a medical limited scope licensee to add sealed sources for manual brachytherapy on a storage only basis resulted in the issuance of the license to authorize use of the sources; however, the license was issued without an authorized user. Another license amendment requested authorization for use of unsealed material that requires a written directive; however, the license was amended to authorize possession of sealed sources for this use. The review team also found this license was missing two standard license conditions. The Program’s peer review of this licensing action identified that the form of material should be changed from sealed sources to unsealed material but the correction was not made prior to license issuance. After being notified by the licensee about the error, the Program subsequently re-issued the license.

Three new license applications were found to have a pre-licensing checklist that was either not completed in its entirety or had criterion that were not evaluated as intended by the checklist guidance. Interviews with staff indicated that they were not familiar with the questions and sources of information intended to be used to evaluate the

pre-licensing criteria. Two license reviewers who were hired subsequent to the Program's July 2014 pre-licensing training were not provided the instructions for completing the pre-licensing checklist. The Program conducts quarterly reviews of 100 percent of new license files to confirm that pre-licensing requirements are met and deficiencies are brought to the attention of the license reviewer for correction. However, the quarterly reviews did not identify as deficiencies the incomplete pre-licensing checklists, or the unevaluated pre-licensing criteria. Consequently, the issues were not brought to the attention of the license reviewer. The review team recommends that the Program management develop and implement training and guidance that provides the staff with the tools necessary to accurately complete the Program's pre-licensing requirements for each new license.

d. Results

The review team determined that some licensing actions indicated repeated examples of problems with respect to thoroughness, completeness, consistency, technical quality, and adherence to existing guidance. Therefore, based on the IMPEP evaluation criteria in MD 5.6, the review team recommended, and MRB agreed, that Georgia's performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory, but needs improvement.

3.5 Technical Quality of Incident and Allegation Activities

The quality, thoroughness, and timeliness of response to incidents and allegations of safety concerns can have a direct bearing on public health and safety. An assessment of incident response and allegation investigation procedures, actual implementation of these procedures, internal and external coordination, and investigative and follow-up procedures and actions will be a significant indicator of the overall quality of the program.

a. Scope

The review team used the guidance in State Agreements procedure SA-105, "Reviewing the Common Performance Indicator: Technical Quality of Incident and Allegation Activities," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Incident response, investigation, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- Onsite responses are performed when incidents have potential health, safety or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC Headquarters Operations Center for incidents requiring a 24-hour or immediate notification to the Agreement State or the NRC.
- Incidents are reported to the Nuclear Material Events Database.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

During the review period, 24 incidents were reported to the Program. The review team evaluated 12 radioactive materials incidents which included 3 lost/stolen radioactive materials events, 4 medical events, 2 damaged equipment events, and 3 leaking sources events. The Program dispatched inspectors for immediate onsite assessment for four of the cases reviewed. The other eight cases were evaluated through phone and e-mail conversations. Additionally, the Program follows up on events at the next routine inspection.

During the review period, six allegations were received by the Program. The review team evaluated all six allegations, including one allegation that the NRC referred to the Program, during the review period.

c. Evaluation

The team determined that during the review period, the Program met the performance indicator objectives listed in Section 3.5.a.

d. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommended, and the MRB agreed, that Georgia'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 (SS&D) Evaluation Program, (3) Low-Level Radioactive Waste (LLRW) Disposal Program, and (4) Uranium Recovery Program. The NRC's Agreement with Georgia does not relinquish regulatory authority for a SS&D, or a uranium recovery program; therefore only two non-common performance indicators apply to this review.

##### 4.1 Compatibility Requirements

State statutes should authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement. The statutes must authorize the State to promulgate regulatory requirements necessary to provide reasonable assurance of protection of public health, safety, and security. The State must be authorized through its legal authority to license, inspect, and enforce legally binding requirements, such as regulations and licenses. The NRC regulations that should be adopted by an Agreement State for purposes of compatibility or health and safety should be adopted in a time frame so that the effective date of the State requirement is not later than 3 years after the effective date of the NRC's final rule. Other program elements, as defined in Appendix A of State Agreements procedure SA-200, "Compatibility Categories and Health and Safety Identification for NRC Regulations and Other Program Elements," that have been designated as necessary for maintenance of an adequate and compatible program

should be adopted and implemented by an Agreement State within 6 months following NRC designation.

a. Scope

The review team used the guidance in State Agreements procedure SA-107, "Reviewing the Non-Common Performance Indicator: Compatibility Requirements," and evaluated Georgia's performance with respect to the following performance indicator objectives. A complete list of regulation amendments can be found on the NRC website at the following address: [https://scp.nrc.gov/rss\\_regamendments.html](https://scp.nrc.gov/rss_regamendments.html).

- The Agreement State program does not create conflicts, duplications, gaps, or other conditions that jeopardize an orderly pattern in the regulation of radioactive materials under the Atomic Energy Act, as amended.
- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted no later than 3 years after the effective date of the NRC regulation.
- Other program elements, as defined in SA-200 that have been designated as necessary for maintenance of an adequate and compatible program have been adopted and implemented within 6 months of NRC designation.
- The State statutes authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement.
- The State is authorized through its legal authority to license, inspect, and enforce legally binding requirements such as regulations and licenses.
- Impact of sunset requirements, if any, on the State's regulations.

b. Discussion

Georgia became an Agreement State on December 15, 1969. The Program's current effective statutory authority is contained in the Official Code of Georgia Annotated, Title 31, Chapter 13, of the Georgia Statutes. The Department is designated as the State's radiation control agency. No legislation affecting the radiation control program was passed during the review period.

Georgia's administrative rulemaking process takes approximately 1 year from drafting to finalizing a rule. The public, the NRC, other agencies, and potentially impacted licensees and registrants are offered an opportunity to comment during the process. Comments are considered and incorporated, as appropriate, before the regulations are finalized and approved by the Board of the Department of Natural Resources. The review team noted that Georgia's rules and regulations are not subject to "sunset" laws.

During the review period, the Program submitted four final regulation amendments, three proposed regulation amendments and one legally binding license condition to the NRC for a compatibility review. One of the amendments was overdue for adoption by Georgia at the time of submission.

Two out of the three aforementioned proposed regulations (RATS ID's 2011-2 and 2012-1) have been promulgated in a timely manner. However, the Program has not submitted the final packages for NRC review. The third regulation package submitted as

proposed (RATS ID 2013-1) has been adopted by a legally binding license condition. The Program should submit the final package for NRC review if they plan to adopt the regulation and remove the license condition from the applicable licenses.

The team noted that during the review period, the Program submitted three additional regulation packages addressing several comments that were generated during previous reviews.

At the time of this review, no amendments were overdue.

### Evaluation

The team determined that during the review period, the Program met the performance indicator objectives listed in Section 4.1.a.

#### c. Results

Based on the IMPEP evaluation criteria in MD 5.6, the review team recommended, and the MRB agreed, that Georgia's performance with respect to the indicator, Compatibility Requirements, be found satisfactory.

#### 4.2 Low-level Radioactive Waste Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement," to allow a State to seek an amendment for the regulation of LLRW as a separate category. Although the Program 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, they are expected to put in place a regulatory program which will meet the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in Georgia. Accordingly, the review team did not review this indicator.

#### 5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, Georgia's performance was found satisfactory for five out of six performance indicators reviewed and satisfactory, but needs improvement, for the indicator, Technical Quality of Licensing Actions. The review team identified performance issues in the indicators of Status of the Materials Inspection Program (Section 3.2), Technical Quality of Inspections (Section 3.3), and Technical Quality of Licensing actions (Section 3.4) that are attributed to staff turnover.

The review team made three recommendations regarding performance by the Program in the areas of inspection technique for brachytherapy, licensing criteria for radiation safety officers, and pre-licensing guidance requirements. The review team determined that the recommendations from the 2014 IMPEP review should be closed (Section 2.0). The MRB issued two additional recommendations to the Program to bolster performance. One concerns staff retention and the second, reciprocity inspections.

With respect to staff retention, the Technical Staffing and Training indicator was found satisfactory in 2014 and 2016. Because staff turnover led to negative performance trends in some areas of licensing and inspection over the 2016 review period, the MRB issued a recommendation to the Program management to develop a strategy to address staff retention and implement corrective actions to ensure satisfactory program performance is sustained.

The review team recommended, and the MRB agreed, that the period of heightened oversight be discontinued and a period of monitoring be initiated until such time as the Georgia Agreement State Program has demonstrated a sustained period of satisfactory performance.

Accordingly, the review team recommended, and the MRB agreed, that the Georgia 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 recommended, and the MRB agreed, that the next full IMPEP review take place in approximately 4 years. The MRB directed that a periodic meeting be held 1 year from this review with a second meeting approximately 18 months after the first periodic meeting. These periodic meetings will include a focused discussion of Georgia's actions taken to address the recommendations noted below.

Below are the review team and MRB's recommendations, as mentioned in the report, for evaluation and implementation by Georgia:

1. The MRB recommends that the Program management develop a strategy to address staff retention and implement corrective actions to mitigate the causes of the Program's turnover to ensure satisfactory program performance is sustained. (Section 3.1)
2. The MRB recommends that Program management implement corrective actions and make necessary adjustments to ensure satisfactory program performance is sustained with regard to reciprocity inspections. (Section 3.2)
3. The review team recommends that the Program develop and implement training for inspectors on the examination of the written directives and NRC Inspection Procedure 87132, Brachytherapy Programs. (Section 3.3)
4. The review team recommends that the Program verify that all previously approved radiation safety officers for medical licenses have an attestation by a preceptor RSO, including that the individual has completed training in the radiation safety, regulatory issues and emergency procedures for the appropriate license type. (Section 3.4)
5. The review team recommends that the Program management develop and implement training and guidance that provides the staff with the tools necessary to accurately complete the Program's pre-licensing requirements for each new license. (Section 3.4)



## LIST OF APPENDICES

Appendix A	IMPEP Review Team Members
Appendix B	Inspection Accompaniments

## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Binesh Tharakan, Region IV	Team Leader Status of the Materials Inspection Program
Lizette Roldan-Otero, NMSS	Team Leader in Training Inspector Accompaniments Compatibility Requirements
Jeff Griffis, NRC Technical Training Center	Technical Staffing and Training
Farrah Gaskins, Region I	Technical Quality of Inspections
Vanessa Danese, State of Texas	Technical Quality of Licensing Actions
Monica Ford, Region I	Technical Quality of Incident and Allegation Activities

## APPENDIX B

### INSPECTION ACCOMPANIMENTS

The following inspection accompaniments were performed prior to the onsite IMPEP review:

Accompaniment No.: 1	License No.: GA 1369-1
License Type: Industrial Radiography Temporary Job Site	Priority: 1
Inspection Date: 02/08/16	Inspector: IB

Accompaniment No.: 2	License No.: GA 1635-1
License Type: Generally Licensed Device Distribution	Priority: 3
Inspection Date: 02/09/16	Inspector: GR

Accompaniment No.: 3	License No.: GA 1119-1
License Type: Medical Institution Therapy	Priority: 2
Inspection Date: 02/10/16	Inspector: JM

Accompaniment No.: 4	License No.: GA 488-1
License Type: Portable Gauge	Priority: 5
Inspection Date: 02/11/16	Inspector: LS

Accompaniment No.: 5	License No.: GA 1531-1
License Type: Portable Gauge	Priority: 5
Inspection Date: 02/12/16	Inspector: SF