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

May 31, 2022

Dr. Jose R. Romero, MD, Arkansas
Secretary of Health
Arkansas Department of Health
Radiation Control Section
5800 West 10th Street, Suite 401
Little Rock, AR 72204

Dear Dr. Romero:

On April 28, 2022, the Management Review Board (MRB), which consisted of U.S. Nuclear Regulatory Commission (NRC) senior managers and an Organization of Agreement States MRB member, met to consider the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Arkansas Agreement State Program. The MRB Chair in consultation with the MRB found the Arkansas Agreement State Program adequate to protect public health and safety and compatible with the NRC's program.

The enclosed final report documents the IMPEP team's findings and summarizes the results of the MRB meeting. Based on the results of the current IMPEP review, the MRB directed that the next periodic meeting take place in approximately 1 year, a follow-up IMPEP review of the Technical Quality of Licensing Actions performance indicator in approximately 2 years, and the next full IMPEP review to be conducted in approximately 4 years.

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,

ture:cx Signed by Haney, Cathy on 05/31/22

Catherine Haney
Deputy Executive Director for Materials, Waste,
Research, State, Tribal, Compliance, Administration,
and Human Capital Programs
Office of the Executive Director for Operations

Enclosure:
Final 2022 Arkansas Agreement State
Program IMPEP Report

cc: Renee Mallory, Chief of Staff
Arkansas Secretary of Health

Connie Melton, Director
Center for Health Protection
Beth Williams, Chief
Health Systems Licensing and Regulation Branch

Bernie Bevill, Section Chief
Radiation Control Section

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Radioactive Materials Program

SUBJECT: FINAL ARKANSAS AGREEMENT STATE PROGRAM INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM REPORT DATE MAY 31, 2022

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE ARKANSAS AGREEMENT STATE PROGRAM

JANUARY 24-28, 2022

FINAL REPORT

EXECUTIVE SUMMARY

The results of the 2022 Integrated Materials Performance Evaluation Program (IMPEP) review of the Arkansas Agreement State Program (Arkansas) are discussed in this report. The review was conducted in-person from January 24-28, 2022. In-person inspector accompaniments were conducted during the week of December 7, 2021.

The 2022 IMPEP team found Arkansas's performance to be satisfactory for the following performance indicators:

- Technical Staffing and Training;
- Status of Materials Inspection Program;
- Technical Quality of Inspections;
- Technical Quality of Incident and Allegation Activities; and
- Legislation, Regulations, and Other Program Elements

The team found Arkansas's performance to be satisfactory but needs improvement for the performance indicator Technical Quality of Licensing Actions which remains unchanged from the previous IMPEP review. The 2022 IMPEP team recommended and the Management Review Board (MRB) agreed that the 2019 IMPEP recommendation be modified as follows:

- Establish a peer review process to enhance the thoroughness, completeness, and consistency of the license reviews, as well as to ensure license reviews are of acceptable technical quality with health, safety, and security properly addressed.

The 2022 IMPEP team also recommended and the MRB agreed on two new recommendations for improved program performance related to the implementation of the Risk-Significant Radioactive Materials checklist, and a financial assurance program consistent with State regulations.

Accordingly, the 2022 IMPEP team recommended and the MRB agreed that Arkansas be found adequate to protect public health and safety and compatible with the NRC's program. The team recommended and the MRB agreed that the next periodic meeting take place in approximately 1 year, a follow-up IMPEP review of the Technical Quality of Licensing Actions performance indicator take place in in approximately 2 years, and the next full IMPEP review be conducted in approximately 4 years.

1.0 INTRODUCTION

The Arkansas Agreement State Program (Arkansas) review was conducted in-person from January 24-28, 2022, by a team of technical staff members from the U.S. Nuclear Regulatory Commission (NRC), the State of Arizona, and the Commonwealth of Kentucky. Team members are identified in Appendix A. In-person inspector accompaniments were conducted December 7-9, 2021. The inspector accompaniments are identified in Appendix B.

The review was conducted in accordance with the "Agreement State Program Policy Statement," published in the *Federal Register* on October 18, 2017 (82 FR 48535), and NRC Management Directive (MD) 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated July 24, 2019. In addition, the team considered IMPEP Temporary Instruction TI-003, "Evaluating the Impacts of the COVID-19 Public Health Emergency as Part of Integrated Materials Performance Evaluation Program (IMPEP)," dated October 21, 2020, to evaluate the impact of the pandemic on the Program. The review covered the period of December 2, 2017, to January 28, 2022, for all performance indicators, except Technical Quality of Licensing Actions. The review period for Technical Quality of Licensing Actions was May 24, 2019, to January 28, 2022, due to the 2019 follow-up IMPEP review. Preliminary results of the review were discussed with Arkansas managers on the last day of the review.

In preparation for the review, a questionnaire addressing the common performance indicators and applicable non-common performance indicators was sent to Arkansas on December 20, 2021. Arkansas provided its response to the questionnaire on January 10, 2022. A copy of the questionnaire responses are available in the NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML22046A097.

The Agreement State Program is administered by the Radioactive Materials Program (the Program). The Program is one of three organizations within the Radiation Control Section, which is part of the Health Systems Licensing and Regulation Branch. The Health Systems Licensing and Regulation Branch is part of the Center for Health Protection, which is within the Arkansas Department of Health (the Department). The director of the Department is the State Health Officer who reports to the governor. Organization charts for Arkansas are available in ADAMS (ML22046A172).

The team issued a draft report to Arkansas on March 14, 2022, for factual comment (ML22047A120). Arkansas responded to the draft report by letter dated April 18, 2022, from Dr. Jose R. Romero, Arkansas Secretary of Health (ML22103A109). Arkansas provided minor comments on the draft IMPEP report and a brief summary of actions taken to address the 2019 follow-up IMPEP review recommendation. The Management Review Board (MRB) was conducted on April 28, 2022, to discuss the team's findings and recommendations.

At the time of the review, Arkansas regulated 176 specific licenses authorizing possession and use of radioactive materials. The review focused on the radiation control program as it is carried out under Section 274b. of the Atomic Energy Act of 1954, as amended, Agreement between the NRC and the State of Arkansas.

The team evaluated the information gathered against the established criteria for each common and applicable non-common performance indicator and made a preliminary assessment of the State's performance.

2.0 PREVIOUS IMPEP REVIEWS AND STATUS OF RECOMMENDATIONS

The last full IMPEP review was conducted November 27-December 1, 2017. The final report is available in ADAMS (ML18054A662). As a result of the 2017 IMPEP review, the team recommended, and the MRB agreed, that Arkansas's performance was satisfactory for five out of six performance indicators reviewed, and unsatisfactory for the performance indicator Technical Quality of Licensing Actions. Accordingly, the 2017 IMPEP team recommended, and the MRB agreed, that the Arkansas Agreement State Program be considered adequate to protect public health and safety, but needs improvement, and compatible with the NRC's program. Based on the criteria in State Agreements (SA) procedure SA-122, "Heightened Oversight and Monitoring," the team recommended, and the MRB agreed, that the Arkansas Agreement State Program be placed on Monitoring. The 2017 IMPEP team recommended that a follow-up IMPEP review take place in approximately 2 years to review the Technical Quality of Licensing Actions indicator. However, the MRB directed that a follow-up IMPEP review should take place in 18 months instead of 2 years.

The follow-up IMPEP review of the Technical Quality of Licensing Actions performance indicator that was found unsatisfactory in 2017, was conducted May 21-23, 2019. The final follow-up IMPEP report is available in ADAMS (ML19227A309). Based on the results of this 2019 follow-up IMPEP review, Arkansas's performance was found to be satisfactory, but needs improvement for the performance indicator, Technical Quality of Licensing Actions. The 2019 IMPEP team recommended, and the MRB agreed, to close three of the four recommendations and modify the remaining recommendation. Accordingly, the 2019 IMPEP team recommended, and the MRB agreed, that the Arkansas Agreement State Program be found adequate to protect public health and safety, and compatible with the NRC's program. Due to improvements in the Arkansas licensing program, the 2019 IMPEP team recommended, and the MRB agreed, that the period of monitoring be discontinued. In addition, the 2019 IMPEP team recommended, and the MRB agreed, that the next full IMPEP review take place in approximately 2 years from this review with a periodic meeting in approximately 1 year to assess Arkansas's continued progress. The results of the 2019 follow-up IMPEP review and the status of the open recommendations from the 2019 review are as follows:

Technical Quality of Licensing Actions: Satisfactory, but needs improvement

Recommendation: The 2019 IMPEP team recommended and the MRB agreed to modify and keep a portion of the 2017 recommendation to ensure Arkansas: Continue to perform and update its quarterly Quality Improvement audits to ensure that licensing actions are thorough, consistent, and adhere to Arkansas's licensing procedures for the use of standard license conditions, standard authorized use conditions, standard authorized medical user materials authorizations; and to ensure that staff is appropriately implementing the Risk-Significant Radioactive Materials (RSRM) checklist, especially in cases where the request is to remove or decrease RSRM.

Status: The 2022 IMPEP review team determined that this recommendation should be kept open and modified as follows:

- Identify additional measures to enhance the thoroughness, completeness, and consistency of the license reviews, as well as to ensure license reviews are of acceptable technical quality with health, safety, and security properly addressed.

Overall finding: From the 2019 follow-up IMPEP review, adequate to protect public health and safety and compatible with the NRC program.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review the NRC and Agreement State radiation control 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 could affect public health and safety. Apparent trends in staffing must be assessed. Review of staffing also requires 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 team used the guidance in SA-103, “Reviewing the Common Performance Indicator: Technical Staffing and Training,” and evaluated Arkansas’s performance with respect to the following performance indicator objectives:

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- 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.
- Agreement State training and qualification program is equivalent to NRC Inspection Manual Chapter (IMC) 1248, “Formal Qualifications Program for Federal and State Material and Environmental Management Programs.”
- Qualification criteria for new technical staff are established and are followed, or qualification criteria will be established if new staff members are hired.
- 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 Arkansas Agreement State Program when fully staffed is comprised of six staff members including the Program Manager, four health physicists, and one administrative

staff member. The health physicists are responsible for all licensing and inspection activities within the Program. One health physicist position is currently vacant. During the review period four staff members left the Program. The Program Manager and one health physicist retired from state service and the remaining two health physicists left the Program for federal employment. The positions were vacant from several weeks to several months for individuals who were currently state employees working in other program areas, and from several months to over a year to replace individuals entering the Program from outside state employment. The team found that two of the four health physicist positions are currently occupied by long-term employees, and the other two positions were the positions where the staff turnover occurred. While the team did identify issues with licensing, the team did not find any performance issues that were directly related to changes in staffing during the review period.

Arkansas has a training and qualification program that is consistent with NRC's IMC 1248. The training program is managed by the Program Manager who meets with staff under qualification and works with them as the individual traverses through the training process. The Program Manager also determines when staff are sufficiently trained to work independently both for licensing and inspection-related activities. The team determined that qualified licensing and inspection staff are completing at least 24 hours of refresher training every 2 years.

c. Evaluation

The team determined that, during the review period, Arkansas met the performance indicator objectives listed in Section 3.1.a. Based on the criteria in MD 5.6, the team recommended that Arkansas's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Arkansas's performance with respect to this indicator satisfactory.

3.2 Status of Materials Inspection Program

Inspections of licensed operations are essential to ensure that activities are being conducted in compliance with regulatory requirements and consistent with good safety and security practices. The frequency of inspections is specified in IMC 2800, "Materials Inspection Program," and is dependent on the amount and type of radioactive 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 team used the guidance in SA-101, "Reviewing the Common Performance Indicator: Status of the Materials Inspection Program," and evaluated Arkansas'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 prescribed frequencies (https://www.nrc.gov/materials/miau/mat-toolkits.html).

- 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.
- Candidate licensees working under reciprocity are inspected in accordance with the criteria prescribed in IMC 2800 and other applicable guidance or compatible Agreement State Procedure.
- 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

Arkansas performed 115 Priority 1, 2, and 3 inspections, and 18 initial inspections during review period. One Priority 1 inspection was overdue. No initial inspections were overdue. The overdue inspection, which was completed late by 3 months, was due to scheduling issues related to the licensee relocating to the State of Oklahoma although they had a specific license to perform activities in Arkansas.

Arkansas inspected 22 of the 129 reciprocity licensees during the review period. For the calendar year 2020, Arkansas inspected 3 of 32 reciprocity inspections as a result of the pandemic. TI- 003states, in part, that for inspections that exceed the scheduling window as described in IMC 2800 with overdue dates falling inside the defined timeframe of the pandemic, the number of overdue inspections should be noted in the report but should not be counted in the calculation of overdue inspections, provided that the Program continues to maintain health, safety, and security. The team noted that Arkansas's guidance for conducting reciprocity inspections indicates that the reciprocity inspections shall be performed in a performance-based, risk-informed manner. The team noted that Arkansas's guidance for conducting reciprocity inspections is consistent with the guidance in the IMC 2800. The team reviewed the reciprocity inspections and determined that these were performed consistent with this policy. In 2018, there were 36 reciprocity inspections, and Arkansas performed 6. In 2019, there were 31 reciprocity inspections, and Arkansas performed 7. In 2020, there were 32 reciprocity inspections, and Arkansas performed 3 as a result of impacts from the pandemic. In 2021, there were 30 reciprocity inspections, and Arkansas performed 6. There were no other impacts related to the pandemic on the inspection program.

Arkansas's inspection frequencies are the same for similar license types as described in the NRC's program. A sampling of 25 inspection reports indicated that none of the inspection findings were communicated to the licensees beyond Arkansas's goal of 30 days after the inspection exit.

c. Evaluation

The team determined that, during the review period, Arkansas met the performance indicator objectives listed in Section 3.2.a. Based on the criteria in MD 5.6, the team recommended that Arkansas's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Arkansas's performance with respect to this indicator satisfactory.

3.3 Technical Quality of Inspections

Inspections, both routine and reactive, provide reasonable 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 an inspection program.

- Scope

The team used the guidance in SA-102, "Reviewing the Common Performance Indicator: Technical Quality of Inspections," and evaluated Arkansas' 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, or senior staff as appropriate, conduct annual accompaniments of each inspector to assess performance and assure consistent application of inspection policies.
- For Programs with separate licensing and inspection staffs, procedures are established and followed to provide feedback information to license reviewers.
- Inspection guides are compatible with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

- Discussion

The team evaluated 25 inspection reports and enforcement documentation, and interviewed inspectors involved in materials inspections conducted during the review period. The team reviewed casework for inspections conducted by six of Arkansas' current and former inspectors and included medical, industrial, commercial, academic, research, and service provider licensees.

Two team members performed three inspector accompaniments on December 7-9, 2021. The team found that inspectors were well-prepared, thorough, and assessed the impact of licensed activities with respect to health, safety, and security. Inspectors observed the use of radioactive materials whenever possible. During interviews of licensee staff, inspectors used open ended questions, and were able to develop a basis of confidence that radioactive materials were being used safely and securely. Any findings observed were brought to the licensee's attention at the time of

the inspection and again to the licensee's management during the inspection on-site exit. All findings and conclusions were well-founded and documented.

The team found that all supervisory accompaniments were performed at least annually for all qualified inspectors during each year of the review period and continued to be performed for all inspectors during the pandemic.

The team determined that Arkansas had an adequate supply of properly calibrated radiation detection equipment to support the inspection program. Calibrations were performed annually. The team reviewed inspection records and found that surveys had been performed with properly calibrated survey equipment.

- Evaluation

The team determined that, during the review period, Arkansas met the performance indicator objectives listed in Section 3.3.a. Based on the criteria in MD 5.6, the team recommended that Arkansas's performance with respect to the indicator, Technical Quality of Inspections be found satisfactory.

- MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Arkansas's performance with respect to this indicator 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, as well as security. An assessment of licensing procedures, implementation of those procedures, and documentation of communications and associated actions between Arkansas licensing staff and regulated community is a significant indicator of the overall quality of the licensing program.

a. Scope

The team used the guidance in SA-104, "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated Arkansas'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 are consistent with current regulatory guidance (e.g., pre-licensing guidance, Title 10 of the *Code of Federal Regulations* (10 CFR) Part 37, financial assurance, etc.).
- License reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and can be inspected.
- 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 RSRM are appropriately implemented including the physical protection of Category 1 and Category 2 quantities of radioactive material (10 CFR Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled, and secured.

b. Discussion

During the review period, Arkansas performed 428 radioactive materials licensing actions. The team evaluated 25 of those licensing actions: 5 new applications, 12 amendments, 4 terminations, and 4 renewals. The team evaluated casework which included the following license types and actions: broad scope, medical diagnostic and therapeutic, commercial radiopharmacy, industrial radiography, research and development, portable and fixed gauges, transfers of control, security, and financial assurance. Arkansas indicated that no bankruptcies occurred during the review period. The casework sample represented work from six former and current license reviewers.

The team determined that approximately half of the licensing actions reviewed were well documented and properly addressed health, safety, and security issues. In these cases, deficiency letters were clear and used at appropriate times, and license reviewers were aware of inspection and enforcement history when evaluating license renewals. Files containing information for licensee's possessing Category 1 or Category 2 quantities of radioactive material were marked with an identifying label and secured in a lockable file cabinet. The team determined that Arkansas is implementing a compatible procedure to the NRC's "Checklist to Provide a Basis for Confidence that Radioactive Material will be Used as Specified on the License" (Pre-licensing Guidance). The team also determined that the appropriate Pre-licensing Guidance checklist was being implemented in all applicable cases reviewed, including new license actions and change of control amendments. However, the team identified both isolated and programmatic gaps in the licensing program. For example, regarding the gap, the team noted two instances where an Authorized User and Radiation Safety Officer were approved using the Board Certification pathway; but Arkansas did not obtain a copy of the board certification to verify that its certification process had been recognized by the NRC or an Agreement State and met the requirements under 10 CFR Part 35. After the issue was identified, Arkansas did obtain board certification to meet its certification process requirements under 10 CFR Part 35. The team also noted another isolated gap where a facility was authorized for two high dose rate afterloaders (with a total activity of 21 curies and 30 curies of iridium-192) at the same location. The team noted in this case the required 10 CFR Part 37 security review had not been performed. The license was authorized to possess and use 2 different afterloaders with a total activity of 51 curies, the authorization of 30 curies alone would put the licensee above the threshold for requiring Part 37 (the category 2 threshold for iridium-192 is 21.6 curies).

Of the 25 licensing actions reviewed by the team, Arkansas had six licensing actions that included the required Pre-licensing Guidance and seven licensing actions that included the required RSRM checklist. While the Pre-licensing Guidance was appropriately used in all required cases, the team identified five instances where there appeared to be a programmatic gap associated with the use of the RSRM checklist.

Arkansas is implementing a version of the NRC's RSRM checklist, but the Arkansas version is missing a question that was added to the December 2018 revision regarding the addition of one or more locations of use. As discussed in the 2019 follow-up IMPEP report, Arkansas does have a procedure to identify new and amended licenses that should be subject to additional security measures; however, the team found repeat instances where Arkansas was not completing the checklist in cases where the request was to remove or decrease RSRM or increase or reduce the possession limit of a radionuclide listed in the RSRM table. Based on the inconsistent implementation of the RSRM checklist, the team recommends that Arkansas should:

- Implement the updated RSRM checklist and provide additional training to ensure consistent implementation of the most up to date RSRM checklist.

After the IMPEP review and prior to the MRB, Arkansas updated the RSRM checklist to the current version. However, Arkansas still needs to provide additional training to staff.

The team noted that Arkansas's financial assurance rule is compatible with 10 CFR 30.35; however, the team found that Arkansas was not implementing the rule correctly in two out of the six cases. At the time of the review, Arkansas had four licensees that required financial assurance. The team found two licenses that had been authorized for possession of radioactive material in quantities requiring financial assurance; however, they did not possess the required fiscal instrument. One of the licensees requiring financial assurance was a public university that the Program identified as exempt from the financial assurance requirements because they were a government entity when a Statement of Intent should have been submitted. The second licensee requiring financial assurance was a nuclear pharmacy that was licensed for Ge-68/Ga-68 generators, with a maximum possession limit of 400 mCi. The Program exempted the licensee from the Decommissioning Funding Plan requirement because the licensee was able to submit the legally binding agreement to return the generators back to the manufacturer or distributor when they were no longer used; however, the Program was unaware that the financial assurance requirement still needed to be met.

Additionally, of the four licensees that currently possess the correct financial assurance mechanism, one of the licenses was exempted by the license reviewer from the requirements for having financial assurance for the first six months after license issuance because the licensee stated they would not receive any material for at least 6 months.

When processing both new and renewal license applications, Arkansas uses a standard review checklist, and this checklist does include a line item for financial assurance.

Based on the inconsistent implementation of financial assurance requirements, the team recommends that Arkansas should:

- Implement a financial assurance program consistent with State regulations and provide additional training to ensure that staff understand the thresholds.

With respect to the license review process, the team found three instances where the newest license reviewer in training performed independent license reviews which were sent out without being reviewed by a qualified license reviewer. The team discussed these incidents with Arkansas and determined that these were isolated incidents and

represented an isolated gap like the examples above. Although there were no impacts to public health and safety and the work of the new license reviewer was thorough and appropriate, each of these actions should have been reviewed by one of the two qualified license reviewers prior to being signed and sent out. In addition, Arkansas's licensing procedures discuss the use of a quality review which is a technical and quality review of licensing actions. The team found several instances where a licensing action was started, completed, and signed off on by the same individual.

c. Evaluation

The team determined that during the review period, Arkansas met the performance indicator objectives listed in Section 3.4.a, except for:

- Some licensing action reviews were not thorough, complete, consistent, or of acceptable technical quality with health, safety, and security issues properly addressed.
- Essential elements of license applications have been submitted and elements were not always consistent with current regulatory guidance (e.g., pre-licensing guidance, 10 CFR Part 37, financial assurance, etc.).
- License reviewers did not always have the proper signature authority for the cases they review independently.
- Licensing practices for RSRM were not always appropriately implemented including the physical protection of Category 1 and Category 2 quantities of radioactive material (10 CFR Part 37 equivalent).

In determining the overall rating for this indicator, the team reviewed MD 5.6. Specifically, the team noted that MD 5.6 states in Section III.E.2 that "Consideration should be given to a finding of satisfactory but needs improvement when a review demonstrates the presence of one or more of the following conditions." The team determined that the Arkansas Agreement State Program met the following conditions under Section III.E.2 (b) during this review period:

- Evaluation of licensing casework indicates that the licensing actions are not always thorough, complete, consistent, and of acceptable technical quality in more than a few, but less than most, of the cases reviewed.

As a result of the 2019 follow-up IMPEP review, the team recommended and the MRB agreed that the 2017 recommendation be modified to state Arkansas should:

- Continue to perform and update its quarterly Quality Improvement audits to ensure that licensing actions are thorough, consistent, and adhere to Arkansas's licensing procedures for the use of standard license conditions, standard authorized use conditions, standard authorized medical user materials authorizations, and to ensure that staff is appropriately implementing the RSRM checklist, especially in cases where the request is to remove or decrease RSRM.

The 2022 IMPEP team recommended that the recommendation from the 2019 follow-up IMPEP remain open and be modified to state Arkansas should:

- Identify additional measures to enhance the thoroughness, completeness, and consistency of the license reviews, as well as to ensure license reviews are of acceptable technical quality with health, safety, and security properly addressed.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommended that Arkansas*'s* performance with respect to the indicator, Technical Quality of Licensing Actions, be satisfactory, but needs improvement.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Arkansas's performance with respect to this indicator satisfactory but needs improvement. The MRB Chair also agreed with the team's recommendation to modify the 2019 follow-up IMPEP recommendation and open two new recommendations to improved program performance related to the implementation of the Risk-Significant Radioactive Materials checklist, and a financial assurance program consistent with State regulations.

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, safety, and security. An assessment of incident response and allegation investigation procedures, actual implementation of these procedures internal and external coordination, timely incident reporting, and investigative and follow-up actions, are a significant indicator of the overall quality of the incident response and allegation programs.

a. Scope

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

- Incident response and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site 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 NRC.
- Incidents are reported to the Nuclear Material Events Database (NMED) and closed when all required information has been obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified within 30 days of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

During the review period, 14 incidents were reported to Arkansas. The team evaluated 14 radioactive materials incidents: four lost or stolen radioactive materials, one potential

overexposure, one medical event, four damaged equipment including fixed and portable gauging devices, two package contamination events and two equipment failures. Arkansas dispatched inspectors for on-site follow-up for five of the cases reviewed.

The team also evaluated the Arkansas reporting of incidents to the NRC's Headquarters Operations Officer (HOO). The team confirmed that each event was properly evaluated and communicated with involved individuals and adequately documented their findings. The administrative policy dictates that the Program Manager decides on the appropriate health and safety significance and the subsequent response. This can range from immediate response to following up during the next inspection due for the licensee. Arkansas responded appropriately to events following established procedures and following guidance in the current SA-300, "Reporting Material Events," document. Events reported to the NRC via the HOO and included in NMED, were reported within the required timeline, once notified by the licensee. The event log for the State was also reviewed to determine if there were events that the State failed to report to the HOO.

The team found only one event that was closed by the State but not reported to the HOO within the required 30-day notification period. This event has been recently reported and will be closed out once received and included on the NMED database.

During this review period two allegations were received, one involving an out-of-state licensee, which was referred to the NRC, and the second referred to the State by the NRC. The allegations were reviewed and closed, and during the process the individuals were notified and their identities were protected.

c. Evaluation

The team determined that, during the review period, Arkansas's met the performance indicator objectives listed in Section 3.5.a. Based on the criteria in MD 5.6, the team recommended that Arkansas performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Arkansas's performance with respect to this indicator satisfactory.

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Legislation, Regulations, and Other Program Elements, (2) Sealed Source and Device (SS&D) Evaluation Program, (3) Low-Level Radioactive Waste (LLRW) Disposal Program, and (4) Uranium Recovery Program. The NRC retains regulatory authority for SS&D Evaluation and Uranium Recovery Programs; therefore, only the first and third non-common performance indicator applied to this review.

4.1 Legislation, Regulations, and Other Program Elements

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 State's agreement with the NRC. The statutes must authorize the State to promulgate regulatory requirements necessary to provide reasonable assurance of adequate 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 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 Program Element Table indicating the Compatibility Categories for those program elements other than regulations can be found on the NRC Web site at the following address: https://scp.nrc.gov/regtoolbox.html.

a. Scope

The team used the guidance in SA-107, "Reviewing the Non-Common Performance Indicator: Legislation, Regulations, and Other Program Elements," and evaluated Arkansas'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/regtoolbox.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, "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, 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.
- Sunset requirements, if any, do not negatively impact the effectiveness of the State's regulations.

b. Discussion

Arkansas became an Agreement State on July 1, 1963. Legislative authority to create a radiation control agency and enter into an Agreement with NRC was granted in Arkansas Code Annotated (A.C.A.) § 20-21-201 et seq. The State Board of Health is designated as the State Radiation Control Agency, with the day-to-day administrative

duties being carried out by the Secretary of the Department of Health's designee in accordance with A.C.A. § 20-21-206. The Arkansas Department of Energy and Environment, Division of Environmental Quality, has very limited provisions in Title 8, Chapter 7 - Hazardous Substances, Subchapter 6 - LLRW, that address disposal and storage of low-level radioactive waste.

Arkansas's administrative rulemaking process takes approximately 18 months 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 Arkansas State Board of Health. The team noted that the State's rules and regulations are not subject to "sunset" laws.

During the review period, Arkansas submitted one final regulation amendment and one proposed regulation amendments to the NRC for a compatibility review. With the adoption of the most recent rule package effective December 20, 2021, Arkansas has adopted all Regulation Amendment Tracking System Identification Number (RATS ID) amendments due at this time except for RATS 2018-1. RATS 2018-1 was due January 14, 2022, and was reviewed by the NRC as proposed, with no comments, but did not make it onto the Executive Staff agenda in order to begin the rulemaking process with the other RATS ID's due. Arkansas will work to have RATS 2018-1 adopted in 2022.

c. Evaluation

The team determined that, during the review period, Arkansas met the performance indicator objectives listed in Section 4.1.a. Based on the criteria in MD 5.6, the team recommended that Arkansas's performance with respect to the indicator, Legislation, Regulations, and Other Program Elements, be found satisfactory.

d. MRB Chair's Determination

The MRB Chair agreed with the team's recommendation and found Arkansas's performance with respect to this indicator satisfactory.

4.2 LLRW Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC 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. Those States with existing Agreements prior to 1981 were determined to have continued LLRW disposal authority without the need for an amendment. Although Arkansas has such authority to regulate a LLRW disposal facility, the NRC has not required States to have a program for licensing a disposal facility until such time as the State has been designated as a host State for LLRW disposal. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, it is expected to put in place a regulatory program that will meet the criteria for an adequate and compatible LLRW program. There are no plans for a commercial LLRW disposal facility in Arkansas. Accordingly, the team did not review this indicator.

5.0 SUMMARY

The team found Arkansas's performance to be satisfactory for the performance indicators:

- Technical Staffing and Training;
- Status of Materials Inspection Program;
- Technical Quality of Inspections;
- Technical Quality of Incident and Allegation Activities; and
- Legislation, Regulations, and Other Program Elements

The team found Arkansas's performance to be satisfactory but needs improvement for the performance indicator Technical Quality of Licensing Actions which remains unchanged from the previous IMPEP review. The team recommended and the MRB agreed that the 2019 IMPEP review recommendation be modified as follows:

- Identify additional measures to help improve the thoroughness, completeness, and consistency of the license reviews, as well as to ensure license reviews are of acceptable technical quality with health, safety, and security properly addressed.

The team also recommended and the MRB agreed the following two new recommendations for improved program performance:

- Implement the updated RSRM checklist and provide additional training to ensure consistent implementation of the most up to date RSRM checklist.
- Implement a financial assurance program consistent with State regulations and provide additional training to ensure that staff understand the thresholds.

Accordingly, the team recommended and the MRB agreed that the Arkansas Agreement State Program be found adequate to protect public health and safety, and compatible with the NRC's program. The team recommended and the MRB agreed that the next periodic meeting take place in approximately 1 year, a follow-up IMPEP review of the Technical Quality of Licensing Actions performance indicator take place in in approximately 2 years, and the next full IMPEP review be conducted in approximately 4 years.

LIST OF APPENDICES

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	**Areas of Responsibility**
Stephen Poy, NRC HQ	Team Leader Status of Materials Inspection Program Inspector Accompaniments Legislation, Regulations, and Other Program Elements
Randy Erickson, Region IV	Technical Staffing and Training Technical Quality of Inspections Inspector Accompaniments
Brian Goretzki, State of Arizona	Technical Quality of Licensing Actions
Anjan Bhattacharyya Commonwealth of Kentucky	Technical Quality of Incident and Allegation Activities

APPENDIX B

INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1	License No.: ARK-0903-03521
License Type: Pool Irradiator	Priority: 2
Inspection Date: 12/7/21	Inspector's initials: SM

Accompaniment No.: 2	License No.: ARK-0623-02120
License Type: Nuclear Medicine	Priority: 3
Inspection Date: 12/8/21	Inspector's initials: AH

Accompaniment No.: 3	License No.: ARK-0576-03310
License Type: Industrial Radiography	Priority: 1
Inspection Date: 12/9/21	Inspector's initials: AH