INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM QUESTIONNAIRE

Mississippi FY2021 IMPEP Reporting Period

April 28, 2017 – October 24, 2021

Note: If there has been no change in the response to a specific question since the last IMPEP questionnaire, the State or Region may copy the previous answer, if appropriate.

1. **Please prepare a summary of the status of the State's or Region's actions taken in response to each of the open recommendations from previous IMPEP reviews.**

Located on Teams (See Attachment 1)

MISSISSIPPI STATE DEPARTMENT OF HEALTH

Division of Radiological Health
Radioactive Materials Branch
IMPEP Review
April 2021

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PROGRAM OVERVIEW:

Mississippi became an Agreement State on July 1, 1962.

The Agreement covers byproduct, source, and special nuclear material not sufficient to form a critical mass. The Mississippi program has authority for Sealed Source and Device Registrations, and Low-Level Waste Disposal.

The Mississippi Program is implemented by the Radioactive Materials Branch in the Division of Radiological Health located within the Mississippi State Department of Health. Mississippi regulates 286 specific licenses as of the last IMPEP review completed on April 27, 2017.

The Program has budgeted five technical staff and one manager to implement the radioactive materials program. There were three vacancies in the program as of Jan 22.

The Program is funded 100 percent by the fees it charges to licensees. The Program increased fees by approximately 15 percent in August 2016. It was first increase in 10 years. The legislature also allowed the Program to increase fees another two times up to a maximum of 15 percent over the next four years as needed to keep up with the costs of doing business. The Program manager explained that this new authority to increase fees without having to go back to the legislature will allow the program to effectively implement the radioactive materials program and pay salaries and expenses for the foreseeable future.

Status of Regulations:

The Mississippi Program is up to date on rule promulgation and do not have any rules that are overdue. After the 2017 IMPEP review, Mississippi decided to adopt NRC regulations by reference, which is a significant change in how they have been doing business as an Agreement State for the last 50 years. The NRC provided 31 comments to MS on the proposed regulations in February 2018. As of August 16, 2018, Mississippi officially adopted NRC regulations by reference and resolved the NRC's comments.

Nuclear Power Plants and other Significant Nuclear Facilities:

Mississippi has one commercial nuclear power plant site. The Grand Gulf Nuclear Station is the largest commercial boiling water reactor in the United States. It is in Port Gibson, MS, approximately 20 miles southwest of Vicksburg, MS. The State of Mississippi performs radiological environmental monitoring around the site.

Integrated Materials Performance Evaluation Program (IMPEP)

The Mississippi Program was placed on Monitoring following the April 27, 2017 IMPEP review. Mississippi's performance was found *satisfactory* for three indicators, Technical Staffing and Training, Status of Materials Inspection Program, and Technical Quality of Inspections, *and satisfactory, but needs improvement* for the indicators Technical Quality of Licensing Actions, Technical Quality of Incident and Allegation Activities, and

Compatibility Requirements. The IMPEP team made one recommendation. Upon deliberation, the Management Review Board (MRB) generalized the recommendation initially made by the team in Section 3.4 expanding it to all guidance including incidents, allegations, and licensing.

Overall, the IMPEP team recommended, and the MRB agreed, that the Mississippi Agreement State Program is adequate to protect public health and safety, but needs improvement, and compatible with the NRC's program. The IMPEP team recommended, and the MRB agreed, that the next IMPEP review take place in approximately four years and a periodic meeting take place in approximately one year. Additionally, the IMPEP team recommended, and the MRB agreed, that a period of monitoring be initiated with Mississippi due to the fact that three (3) out of six (6) performance indicators were found to be *satisfactory, but needs improvement*.

Monitoring calls were held on November 1, 2017, and February 14, 2018. The Program reported significant changes to guidance and procedures were made to address the recommendation. A quality improvement team and additional internal oversight was implemented to ensure high quality reviews of licensing and incident response actions. Additionally, actions to improve staff retention including pay scale and job classification adjustments were requested.

A periodic meeting was held on April 25, 2018. The NRC staff reviewed MS's corrective actions and determined that they had addressed the deficiencies and recommendations from the previous IMPEP review. An MRB meeting was held on August 28, 2018. The MRB agreed with the NRC staff recommendation to remove MS from Monitoring. The next full IMPEP review will take place April 19-23, 2021. Reviews of the Mississippi program can be found at https://scp.nrc.gov/reviews.html#MS

Commission Visits

None

RADIATION CONTROL PROGRAM PRINCIPALS

- Jonathan "Tate" Reeves, Governor (Republican)
- Thomas E. Dobbs III, MD, MPH, State Health Officer, MS State Department of Health
- Jim Craig, Senior Deputy and Director, Office of Health Protection, MS State Department of Health
- Christy Berry, Acting Director, Office of Emergency Planning & Response, MS State Department of Health
- Ron Rogers, Division of Radiological Health, MS State Department of Health
- Drew Clark, Division of Radiological Health

STATE LIAISON OFFICER AND PRIMARY AGREEMENT STATE PROGRAM POINT OF CONTACT

Ron Rogers, Director, Division of Radiological Health, MS State Department of Health

REGIONAL STATE AGREEMENTS OFFICER:

- Jackie Cook

PROGRAM CHALLENGES:

The 2020 COVID-19 pandemic presented significant challenges for the Program. The Program was unable to inspect for ~ 14 months due to State level employee health and safety travel restrictions. To restart inspections, COVID-19 safe inspection plans were developed using CDC COVID-19 guidelines. In 2021 inspections were re-started. Leadership identified significant challenges to IMPEP preparations due to COVID-19 and loss of staff.

Major side effects to the program due to Covid-19 were significant overdue inspections and forty (40) overdue licensing actions. Overdue inspection plan includes implementation of Surge Capacity Inspection (SCI) Unit . PIN employees will focus on priorities 1-3 while SCI Unit will focus on the catch up of thirty-five (35) priority five inspections.

The 2018 Quality Improvement team identified “time spent in licensing activities” as the second area of focus for the QI Team to increase employee retention. Improvements began in Nov 2020 and are outlined in the Technical Quality of Licensing section.

To address IMPEP recommendations for stable staffing from 2005 to present, the MS State Department of Health Division of Radiological Health initiated a quality improvement team on September 14, 2017. The Quality Improvement team confirmed the existing career ladder does not represent current practice as a root cause associated with employee retention. The QI team received approval to increase the pay scale for every HP position by $5,000 as recommended by the regional salary survey conducted by the QI team. However, the request to align the Radiological Health career ladder with current NRC practices was stalled at MS State Personnel Board (MSPB). MSPB has undertaken a 2-3 year job classification and compensation improvement project. MSPB is currently surveying all state agencies through Project SEC2 :: MSPB

Succession planning and the future of Rad Health leadership: Ron Rogers was hired as the new director with the effective start date of 15 NOV 2021. Ron determined that a significant reorganization and hiring strategy needed to be rapidly implemented. Drew Clark was hired as Deputy Director as well as an Emergency Response coordinator and Logistics manager. (See Attached PowerPoint)

2. PROGRAM ORGANIZATION:

To support the Performance Indicator Technical Staffing and Training Objectives, a 6x4 white board was installed to visually display MSDH/Radiological Health Organizational Chart, Radioactive Materials Branch team members qualified to license and inspect by Materials Category and monthly inspection schedule by team member.

a. Discuss any changes to the program organization, including staff relocations and new appointments.

In 2020, a three person consultant team was deployed to the Program. Severe staffing challenges were identified. Short and long term improvement strategies were identified.

The consultant team implemented the following short term strategies:

- Leadership improvement team member evaluated all leadership and staff and created performance accountability plans and coaching opportunities for all staff
- Operational improvement team member added valuable capacity by assuming full time operational duties of the Program focused on planning and execution of routine mission objectives and Program preparation for two federal audits in Spring 2021.
- Quality Improvement team member identified and executed process improvement projects in the following areas:
    - Licensing
    - Reciprocity
    - Billing
    - Inspections? (where do we land with changes for contract inspectors?)

For the first time in the Program's existence, licensing and inspections actions were separated into two units. A dedicated and qualified Licensing Officer (LO) was installed November 1, 2020. To date, the LO role has received positive response from our licensees and has increased turn around time on all licensing actions.

The LO position was so successful and added valuable capacity to achieve short term leadership and staffing improvements that the Program executed a contract *Surge Capacity Inspector (SCI) Unit* made up of qualified radioactive materials inspectors. In the short term, the SCI Unit members will be activated in the event a full-time inspector is diagnosed with COVID-19, is engaged in preparations for federal audits or other medical emergencies that would prevent the Program from staying up to date with its inspections schedule.

3. CHANGES IN PROGRAM BUDGET/FUNDING:

At this time, the program is currently benefiting from a 2016 increase in the overall fee structure. In 2019, the Radiological Health Finance office expanded staff and implemented an electronic billing system. The improved billing system allows the Program to transmit invoices electronically and provides an online payment portal option for our customers.

Following an Audit from OCT – DEC 2021 significant improvements need to be made to the invoicing and payment automation application. There was no significant changes in the 2020 and 2021 payment receipts.

4. FEEDBACK ON THE NRC'S PROGRAM:

As an Agreement State, Mississippi benefits greatly from the regulations, guidance, and assurance reviews provided by the Nuclear Regulatory Commission and its team of dedicated subject matter experts. A streamlined process, data, and assurance monitoring are key to any successful performance-based program.

5. CURRENT STATUS OF THE RADIOACTIVE MATERIAL PROGRAM, INCLUDING PREVIOUS IMPEP RESULTS:

a. Technical Staffing and Training (2017 IMPEP Satisfactory)

i) Number of staff in the program and status of their training and qualifications

► X team members

Staff training qualifications are maintained in each staff member's training file.

ii) Any program vacancies

► **3**

iii) Staff turnover since the last IMPEP review

► **5**

iv) Adequacy of FTEs for the materials program

► Adequate to sustain the program and perform all licensing and inspection activities in a timely fashion. Team Member qualifications to license and inspect are summarized in the reference documents. All team members are assigned to attend annual trainings to continuously improve their skill sets and to become fully trained and qualified in all aspects of Radioactive Materials inspection and licensing activities.

v.) Status of implementation of IMC 1248 –

► QI Team Policy Subgroup met on April 5th to conduct an *Initial Checklist Review* of the Radioactive Materials Branch Training Policy, Procedure, and supporting documents. Policy and procedure updates include detailed qualification expectations and detailed instructions to certify team members as qualified license reviewers and/or inspectors. The Training Policy and Procedure includes expectations for team members to have knowledge, skill, and ability compatible with IMC -1248.

b. Status of the Materials Inspection Program (2017 IMPEP Satisfactory)

i) Total number of inspections performed since the last IMPEP review

► X

ii) Total number of inspections performed overdue since the last IMPEP review

► X

iii) Number of inspections currently overdue

► X

iv) Number of initial inspections completed on time and overdue since the last IMPEP review

► 6Xcompleted on time / 0 overdue

v) Status of reciprocity inspections since the last IMPEP review

► **Currently, X reciprocity inspections have been conducted during this review period for priority 1 and 3 licensees. There were no priority 2 reciprocity candidates and no inspections conducted on priority 2 reciprocity licensees.**

Priority 1	Priority 3	Priority 2
2017 / 2018	2017 / 2018	2017 / 2018
2/9 / 2/11	2/9 / 2/11	0 / 0

vi) Timeliness of inspection report issuance

► Inspection findings are communicated to licensees in a timely manner according to Radiological Health Procedures (30 calendar days after inspection completion and/or 45 days for completion of team inspections as specified in IMC 0610, Nuclear Material Safety and Safeguards Inspection Reports).

c. Technical Quality of Inspections (2017 IMPEP Satisfactory)

Changes to inspection program/procedures

► QI Team Policy Subgroup met on April 5th to conduct an *Initial Checklist Review* of the Radioactive Materials Branch Training Policy, Procedure, and supporting documents. Policy and procedure updates include qualification expectations and detailed instructions to certify team members as qualified license reviewers and/or inspectors. The Training Policy and Procedure includes expectations for team members to have knowledge, skill, and ability compatible with IMC- 1248. The Training Policy and Procedure was completed on April 17, 2018, and forwarded to the Agreement State Officer on April 18, 2018.

Status of inspector accompaniments

► Four (4) Inspection accompaniments were performed for Radioactive Materials Branch team members in 2017 and two (2) in 2018 two (2) in 2021 (no accompaniments were noted for 2019 and 2021) .

Management review of inspections

► Branch Manager and/or Division Director review all inspection reports.

Significant inspection activities/challenges

► Staffing issue with inspectors. No Admin lead for Rad Materials.

d. Technical Quality of Licensing
(2017 IMPEP Satisfactory, but Needs Improvement)

i) Current Status of the recommendation from previous IMPEP: The MRB recommends that the Program review its guidance including licensing, incident, and allegation guidance, update this guidance, as appropriate, and provide training to all Program staff on the new procedures

► The Radioactive Materials Branch Licensing Policy and Procedure was revised to provide clarification on Licensing of Part 37 requirements and Medical Radiation Safety Officer (RSO) requirements. The Licensing Procedures were updated to include step by step instructions to conduct licensing activities in an effort to standardize the process and provide clarification to staff.

► A QI Team Policy Subgroup was created to strengthen and standardize existing allegation policy/procedures. A review of Tennessee and North Carolina allegation policy/procedures indicated a streamlined approach could be utilized to combine complaints, allegations, and incidents (CAI) into one policy. The QI Team Policy Subgroup developed CAI policy, procedure, reporting tables, standardized response letters and forms. On February 1, 2018, team members were assembled for training on the leadership approved CAI Policy and Procedure. A policy gist of changes was provided and the team conducted CAI training scenarios to ensure knowledge, skill, and ability.

ii) Discuss the Licensing Process

► All Radiation Safety Officers (RSO) for a medical use radioactive material license will be qualified according to our State Regulations under Rule 1.7.19, which includes written attestation, signed by a preceptor RSO that the individual has satisfactorily completed the requirements in 1.7.19 and has training in radiation safety, regulatory issues, and emergency procedures for the types of use for which a licensee seeks approval. It should be noted that after February 17, 2018, Mississippi adoption by reference of NRC regulations will be identical requirements as in Title 10 CFR Part 35.NRC.

► The Division issued a letter to all medical licensees with RSO's added to the license on or after 2012 (year of adoption of current state regulations) to include the above requirements and enclosed a Radiation Safety Officer Training and Experience and Preceptor Attestation form. As of February 12, 2018, 100% of the 118 licensees reviewed have submitted the required documentation of training and attestation according to Rule 1.7.19 of the Mississippi State Department of Health Regulations adopted in 2012. From the review, only 19 licensees required additional attestations submitted to the Division of Radiological Health. Two (2) of the 19 licenses with Medical RSO's already listed were amended to meet 1.7.19 (4) & (5).

- All Radioactive Material Branch staff have been trained on the licensing requirements, and regulation in Rule 1.7.19 for RSO's authorized under a medical use license. Licensee checklists have also been amended to include review of RSO training requirements under Rule 1.7.19.

► All licensees who may possess radioactive material meeting the threshold for the International Atomic Energy Agency's (IAEA) Code of Conduct for Category 1, Category 2, or quantities of radioactive material aggregated using the "sum of fractions" methodology that meet or exceed the threshold for a Category 2 quantity of radioactive material will be licensed according to Table 1, 10 CFR Part 37, Appendix A. A specific Part 37 condition was included in the initial license and/or amendment until the adoption of 10 CFR Part 37 into our regulations (adopted February 17, 2018).

- All Radioactive Material Branch staff have been trained on the updated Part 37 licensing interpretation based off Table 1, 10 CFR Part 37, Appendix A which includes the threshold for IAEA's Code of Conduct for Category 1, Category 2, or quantities of radioactive material aggregated using the "sum of fractions" methodology that meet or exceed the threshold for a Category 2 quantity of radioactive material.

- All Radioactive Material Branch staff have been trained on the use of licensing checklist to include review of 10 CFR Part 37 licensing requirements.

► On February 17, 2018, 10 CFR Part 37 was officially adopted into our regulations. Reciprocal licensees are required to follow our regulations, including Part 37, adopted by reference. Agreement Letters for Reciprocity were issued with a specific Part 37 condition if the company is licensed for radioactive material meeting the threshold for IAEA's Code of Conduct for Category 1, Category 2, or quantities of radioactive material aggregated using the "sum of fractions" methodology that meet or exceed the threshold for a Category 2 quantity of radioactive material as defined in Table 1, 10 CFR Part 37, Appendix A.

- 100% of active reciprocal agreement letters were issued or reissued with a specific Part 37 condition if the company was licensed for radioactive material meeting the threshold for IAEA's Code of Conduct for Category 1, Category 2, or quantities of radioactive material aggregated using the "sum of fractions" methodology that meet or exceed the threshold for a Category 2 quantity of radioactive material as defined in Table 1, 10 CFR Part 37, Appendix A until the February 17, 2018, adoption of 10 CFR Part 37.

- All Radioactive Material Branch staff have been trained on the basis for citation of licensees under reciprocity according to rule 1.3.26(1)(c) (now Title 10 CFR 150.20(b), which states, the out-of-state licensee complies with all applicable regulations of the Agency and with all the terms and conditions of the licensing document, except any such terms and conditions which may be inconsistent with applicable regulations of the Agency.

►The Quality Improvement team identified time spent conducting licensing actions as a root cause associated with employee retention. The QI Team Policy Subgroup met on January 26, 2018, to strengthen and standardize the existing Licensing policy and procedure. The QI Team updated and request formal adoption of the Licensing Policy and Procedure. The updated Licensing Policy and Procedures included General License Registration (Form 1096), medical RSO requirements, 10 CFR Part 37 requirements and Reciprocity improvements recommended by the IMPEP team. The Licensing Policy and Procedure was formally adopted by the QI Team on March 21, 2018.

►The QI team will also conduct an affinity diagram to identify problems with the licensing process and work through the QI tools to develop a more streamlined process to efficiently and effectively perform licensing actions. In November 2020, all licensing actions were shifted the Licensing Officer's responsibility and approved by the Director of Radiological Health. Licensing processes were improved including:

- ❖ Electronic licensing and tracking processes
- ❖ Electronic licensing application and submission process via Docusign (in progress)
- ❖ Dedicated email address for licensing management materialslicensing@msdh.ms.gov

Background

IMPEP review teams from 2005 to present have recommended MSDH take action to stabilize staffing and ensure continued successful program implementation. In 2020, the MS State Department of Health Division of Radiological Health began work with Leadership and Process Improvement specialists. Radioactive Materials team worked with Specialists to identify "time spent in licensing activities" as an improvement focus area.

Team members outlined the current state licensing workflow. Key takeaway was the current licensing process is paper. Inspections and emergency response were consistently prioritized over licensing activities allowing licensing actions to in some cases fall behind. Specialists worked with team to outline the following improvements:

1. Hire fully qualified Licensing Official dedicated to licensing management of all licensing types

2. Create interim electronic/virtual licensing process and procedures including tracking spreadsheet

3. Communicate NEW licensing process and dedicated licensing officer

4. Develop plans to transition licensing management to WBL

Licensing Management Improvements

For the first time in program history, Radioactive Materials has a dedicated licensing officer focused on electronic licensing management. Julia McRoberts HP Advanced was hired in November 2020. Julia is a fully qualified licensing officer and former Radiological Health team member. The Licensing Official role centralized all licensing management to a single point. The transition from paper to electronic process was an immediate success and a customer service win for the branch. We believe the centralization and digitization of licensing management will also establish a more sustainable staffing model (ask Dan to re-word this)

Licensing Management and Licensing Official Next Steps

1. Transition Licensing Management to WBL

2. Current Licensing Official

a. fully qualified by all licensing types

b. Complete in-services

c. Annual training refreshers training plan

References:

Current State Licensing Workflow

Future State Licensing Workflow

Electronic Licensing Applications via Docusign Power Form (in progress)

Re-vamped website

iii) Discuss the number of licensing actions and types (amendments, initials, terminations, renewals) completed since the last IMPEP review

As of XXXXX:
Amendments =
Initial =
Terminations =
Renewal =
Entirety =
Reciprocity =

iv) Large, complicated or unique authorizations for use of radioactive materials
►None

e. Technical Quality of Incidents and Allegations
(2017 IMPEP Satisfactory, but Needs Improvement)

i) Status of incidents and allegations received by Mississippi since the last IMPEP review
► A QI Team Policy Subgroup was created to strengthen and standardize existing allegation policy/procedures. A review of Tennessee and North Carolina allegation policy/procedures indicated a streamlined approach could be utilized to combine complaints, allegations, and incidents (CAI) into one policy. The QI Team Policy Subgroup developed CAI policy, procedure, reporting tables, standardized response letters and forms. On February 1, 2018, team members were assembled for training on the leadership approved CAI Policy and Procedure. A policy gist of changes was provided and the team conducted CAI training scenarios to ensure knowledge, skill, and ability. All CAIs will be investigated to determine whether substantiated/unsubstantiated and closed out. All CAIs will be documented and filed in the CAI file for each year. ► All Allegations have been logged and closed out with the alleger for this review period. ► The QI Team Policy Subgroup reviewed the existing Nuclear Material Event reporting procedure and determined the expectations for nuclear material event reporting could be added to the Complaint Allegations and Incident (CAI) Policy and Procedure. All Radioactive Materials Branch staff was trained on the nuclear material event reporting expectations of the CAI Policy on February 1, 2018, which includes the reporting requirements set forth in SA-300. 100% of incidents are documented, filed, and reported to the NRC according to SA-300. Since the IMPEP, all incidents for licensee material events that required reporting have been reported to the NRC in a timely manner, to include one incident involving a fixed gauge stuck shutter. All incidents reported to NRC have been updated and closed as required. ►All incidents have been logged, closed, and reported to the NRC as applicable for this review period.
ii) Actions taken on concerns referred by the NRC, if any
►None referred
iii) Significant events and generic implications
► 2017 University of MS Medical Center Abnormal Occurrence (AO). Initially, Radiological Health sent eight other MS facilities who possessed HDR licenses with the potential make/model HDR, a Manufacturer Corrective Action Notice to make end users aware of a potential software defect. The significant event was previously discussed with NRC.
iv) Event reporting, follow-up and closure information in NMED
► All events in NMED during the review period have been closed out.

f. Compatibility Requirements
(2017 IMPEP Satisfactory, but Needs Improvement)

i) Legislation

► The Division of Radiological Health requested and received approval by the State Board of Health on August 20, 2016, to increase certain program fees by a total of 30%. The program chose to increased fees initially by 15% and delaying the remaining increase to support Quality Improvement career ladder recommendations and future program improvements.

ii) Regulations

►To ensure future compliance with NRC Compatibility Requirements, MSDH submitted the State's request to adopt applicable NRC regulations by reference to the MS Radiation Advisory Council for review, comment and approval in November 2017, thereby streamlining the State's timely adoption of future NRC regulations. Further, the State's use of adopting NRC regulations by reference ensures compliance with 10 CFR Part 37 and the ability to properly enforce licensees in the future. The regulations were approved by the MS State Board of Health January 10, 2018, and became part of the MS Administrative Code on February 17, 2018. NRC staff provided comment regarding our compatibility with adopted NRC regulations. MSDH updated regulations to include NRC comments and filed the updated regulations with the MS Secretary of State's Office on or before April 25, 2018, with approval by the MS State Board of Health on July 11, 2018, and resubmission to Secretary of State's office for final adoption to the MS Administrative Code effective 30 days after Board approval (anticipated effective date of August 15, 2018).

iii) Discussion of State's regulatory process

►As the NRC updates regulations, MSDH will request approval of updated regulations by the MS State Board of Health, which meets quarterly.

iv) Discuss status of State's regulations and actions to keep regulations up to date, including the use of legally binding requirements

► MSDH is able to automatically incorporate by reference revisions to the NRC regulations as they occur, and do not include a specific date in their provisions. Adopting regulations by reference allows MSDH to implement regulations quickly and avoid compatibility conflicts with NRC's regulations. It also reduced confusion for reciprocity and multi-State licensees. NRC regulations that should be adopted by MSDH for purposes of compatibility or health and safety will be adopted in a time frame so that the effective date of the MSDH requirement is no later than three years after the effective date of NRC's final rule.

v) Part 37 adoption status

► MSDH completed Part 37 adoption on February 17, 2018, when NRC regulations were adopted by reference and became part of MS Administrative Code. With the adoption of Part 37, MSDH will not have to place special conditions in licenses and reciprocal agreement state letters.

vi) Legislative changes affecting the program

►No legislative changes at this time

g. Status of Sealed Source Device Evaluation Program
(2017 IMPEP Indicator Not Reviewed)

Previous efforts have been made to return the SS&D program to the Nuclear Regulatory Commission. In February 2018, MSDH adopted NRC regulations by reference and the SS&D program was retained by the Agreement State.

6. INFORMATION EXCHANGE:

a. Current State Initiatives

► To address the IMPEP review deficiencies, The MS State Department of Health Division of Radiological Health initiated a quality improvement team on September 14, 2017. All members of the Radioactive Materials Branch serve as Quality Improvement (QI) team members and meet weekly to identify root causes and recommend improvements using continuous quality improvement methods for all IMPEP performance indicators.

► To standardize and improve documentation, leadership designed an overarching manual based on CRCPD guidelines. *The Radiological Health Manual* will include updated Radioactive Materials Branch policies and procedures. The improvements in documentation will increase team member knowledge, skill, and ability of the program. Additionally, the improved documentation will serve as orientation and training material for new team members.

b. Current NRC Initiatives

c. Emerging Technology

d. State's mechanisms to evaluate performance

►Radioactive Materials Branch leadership conducts annual inspector accompaniments to ensure standardization and best practices are utilized. Radiological Health leadership also conducts annual reviews of the Radioactive Materials program to ensure compatibility with IMPEP standards. Future program initiatives include logic model development to clearly identify program outcome goals and identify strategies to achieve those outcomes.

7. NEXT STEPS/MEETING SUMMARY/Q&A/SENIOR EXECUTIVE EXIT (if requested):

2. **Please provide the following organization charts, including names and positions:**

   a. **A chart showing positions from the Governor down to the Radiation Control Program Director and management. Please provide a staffing plan of the professional (technical) full-time equivalents (FTE) applied to the radioactive materials program by individual. Include the name, position, and, for Agreement States, the fraction of time spent in the following areas: administration, materials licensing & compliance, emergency response, low-level radioactive waste, uranium recovery, other. If these regulatory responsibilities are divided between offices, the table should be consolidated to include all personnel contributing to the radioactive materials program.** **(See Attachment 2)**

   b. **Equivalent charts for sealed source and device evaluation, low-level radioactive waste and uranium recovery programs, if applicable.** **N/A**

   c. **If consultants were used to carry out the program's radioactive materials responsibilities, include their efforts. The table heading should be:** **N/A**

3. **Please provide a listing of all new professional personnel hired into your radioactive materials program since the last review, indicate the date of hire; the degree(s) they received, if applicable; additional training; and years of experience in health physics or other disciplines, as appropriate.**

Ron Rogers – Need all NRC required training

BS Marketing

Drew Clark – Need all NRC required training

BS Business Administration

Jeremy Yow – Need all NRC required training

BS Homeland Security

Adam Dunn – Need all NRC required training

BS Geology

4. **Please list all professional staff who have not yet met the qualification requirements for a radioactive materials license reviewer or inspector. For each, list the courses or equivalent training/experience they need and a tentative schedule for completion of these requirements.**

Ron Rogers – Need all NRC required training

Drew Clark – Need all NRC required training

5. **Please list all professional staff who have not yet met the qualification requirements for a radioactive materials license reviewer or inspector. For each, list the courses or equivalent training/experience they need and a tentative schedule for completion of these requirements.**

   Ron Rogers – Need all NRC required training

   Adam Dunn – Need all NRC required training

   Drew Clark – Need all NRC required training

6. **Identify any changes to your qualification and training procedure that occurred during the review period.** **None**

7. **Please identify the technical staff that left your radioactive materials program during the review period and indicate the date they left.**

Name	Date of Departure
Breille Grantham	5/1/2017
Benjamin Culpepper	6/1/2018
Nicholas Desselles	8/7/2020
Jayson Moak	8/6/2021

8. **List any vacant positions in your radioactive materials program, the length of time each position has been vacant, and a brief summary of efforts to fill the vacancy.**

Health Physicist Trainee (x3) date of departure 8/7/2020. Due to lack of program leadership, hiring efforts were tabled. Incoming Division Director will have the opportunity to fill the position.

Two HP candidates awaiting hiring freeze.

Health Physicist Administrative (x1) date of departure 8/6/2021. Due to lack of program leadership, hiring efforts were tabled. Incoming Deputy Division Director will have the opportunity to fill the position.

Position to be filled internally, pending hiring freeze.

9. **For Agreement States, does your program have an oversight board or committee which provides direction to the program and is composed of licensees and/or members of the public? If so, please describe the procedures used to avoid any potential conflict of interest.**

The Radiation Advisory Council members, as required by legislation, are nominated by the Professional Organizations (i.e. Mississippi Radiological Society) and appointed by the Board of Health. If there is a conflict of interest, the member of the Council is required to abstain from voting. The Council serves only in an advisory capacity to the staff and the Board of Health.

MISSISSIPPI RADIATION ADVISORY COUNCIL
30 Sep 2021

Category	Name	Position
MS State Medical Assn.	**Steven Zachow, M.D.** Merit Health Central MS Medical Center Radiation Therapy P. O. Box 59001 Jackson, MS 39204 (601) 376-2084 or 1000 sezcgz47@aol.com	Therapeutic Radiologist/Physician
MS Radiological Society	**Jeffrey A. Garrett**, MS, DABR Chief Physicist Mississippi Baptist Medical Center 1225 North State Street Jackson, MS 39202 (601) 968-1725 jgarrett@mbhs.org	Therapeutic Medical Physicist
MS Dental Association	**Mark Kennedy, D.D.S.** 2475 Lakeland Drive Flowood, MS 39232 (601) 506-2932 lsudr@bellsouth.net	Dentist
MS Chiropractic Assn.	**Chad A. Brown, D.C.** 4294 Lakeland Drive, Suite 100 Flowood, MS 39208 (601) 936-6650 bcc4294@bellsouth.net	Chiropractor

Institutions of Higher Learning	**Robert B. Nelson** University of MS Medical Center 2500 North State Street Jackson, MS 39216 (601) 984-1078 rnelson@umc.edu	Radiation Safety Officer
MS Manufacturers Assn.	**Todd Goldman** Tronox, LLC P. O. Box 180 Hamilton, MS 39746 (662) 343-8540 **Todd.Goldman@tronox.com**	Radiation Safety Officer

10. **Please identify individual licensees or categories of licensees the State is inspecting less frequently than called for in NRC's Inspection Manual Chapter (IMC) 2800 and explain the reason for the difference. The list only needs to include the following information: license category or licensee name and license number, your inspection interval, and rationale for the difference. See ACCESS Database which reflects priority 1,2, and 3 delinquent inspections (approx. 14 as of 18 JAN 22)**

MSDH follows NRC inspection frequency criteria

11. **Please provide the number of routine inspections of Priority 1, 2, and 3 licensees, as defined in IMC 2800 and the number of initial inspections that were completed during each year of the review period.**

See Attachments for:

2017 Inspection Log, 2018 Inspection Log, 2019 Inspection Log, and 2020 and 2021 Inspection Log on Excel Spreadsheet

12. **Please submit a table, or a computer printout, that identifies inspections of Priority 1, 2, and 3 licensees and initial inspections that were conducted overdue.** See Attachment, Q 12 & 13 on Excel Spreadsheet

At a minimum, the list should include the following information for each inspection that was conducted overdue during the review period:

(1) Licensee Name
(2) License Number
(3) Priority (IMC 2800)
(4) Last inspection date or license issuance date, if initial inspection
(5) Date Due
(6) Date Performed
(7) Amount of Time Overdue
(8) Date inspection findings issued

License Number	License Name	Priority	Inspector	Previous Inspection	Inspecton Due
MS-1035-01	World Testing	1	R. Sims	04/12/2019	04/12/2020
MS-622-01	H and H Xray	1	R. Sims	06/14/2019	06/14/2020
MS-143-02	Singing River Cancer Center	2	J. Algee	10/31/2017	10/31/2019
MS-1092-01	UMMC	2	J. Algee	12/13/2018	12/13/2020
MS-254-02	Memorial Hospital	2	J. Algee	08/24/2017	08/24/2019
MS-1037-01	Alliance Cancer Center	3	J. Algee	01/13/2017	01/13/2020
MS-1004-01	DeSoto Imaging	3	J. Algee	01/27/2017	01/27/2020
MS-925-01	Endocrinology Consultants	3	J. Algee	11/28/2017	11/28/2020
MS-270-01	Kings Daughters Medical Cen	3	J. Algee	10/04/2017	10/04/2020
MS-254-01	Memorial Hospital Gulfport	3	J. Algee	11/17/2016	11/17/2019
MS-1068-01	Methodist Olive Branch	3	J. Algee	08/24/2017	08/24/2020
MS-463-01	Schlumberger	3	R. Sims	06/23/2017	06/23/2020
MS-410-01	UMC Grenada	3	J. Algee	10/06/2017	10/06/2020
MS-EBL-01	University of MS-Health and	3	R. Sims	12/20/2016	12/20/2019
MS-EBL-03	University of Southern MS	3	R. Sims	03/15/2017	03/15/2020
MS-1095-01	Verde Services	3	R. Sims	09/22/2017	09/22/2020

Inspection Date	ox. Days Overdue Past Grace P	ONIF Date
04/07/2021	248	05/05/2021
08/25/2021	350	09/16/2021
04/09/2021	342	None
10/14/2021	124	11/03/2021
09/26/2021	215	None
03/09/2021	175	04/07/2021
08/25/2021	300	09/10/2021
11/03/2021	65	None
07/23/2021	19	07/28/2021
02/16/2021	184	03/15/2021
08/04/2021	65	08/09/2021
08/26/2021	190	09/24/2021
08/05/2021	30	08/16/2021
11/17/2021	48	Pending
06/28/2021	185	07/14/2021
09/23/2021	92	10/21/2021

Notes	Notes
Attempt was made by J. Moak, radiographer team had left before MSDH arrived	
Done late due to Covid	
Done late due to Covid	
Done late due to Covid	
Done late due to Covid	
Done late due to Covid	
Done late due to Covid	
Done Late due to Covid	
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Done late due to Covid	
Done late due to Covid	
Done late due to Covid	

License Number	License Name	Priority	Inspector	Previous Inspection	Inspecton Due
MS-784-01	Acuren	1		11/06/2019	11/06/2020
MS-902-01	Intertek	1		08/16/2019	08/16/2020
MS-264-01	SW MS Regional Med Cente	3		03/09/2017	03/09/2021

rox. Days Overdue Past Grace Pe	Inspection Date	ONIF Date	Acknowledgement	Notes
354	Overdue			
433	Overdue			
41	Overdue			

13. **Please submit a table or computer printout that identifies any Priority 1, 2, and 3 licensees and initial inspections that are currently overdue, per IMC 2800. At a minimum, the list should include the same information for each overdue inspection provided for Question 12 plus your action plan for completing the inspection. Also include your plan for completing the overdue inspections.** **See Attachment, Q 12 & 13 on Excel Spreadsheet**

license Numbe	License Name	Priority	Previous Inspectior	Inspecton Due	Days Overdue Past Grace Period	Inspection Date
MS-784-01	Acuren	1	11/6/2019	11/6/2020	354	Overdue
MS-902-01	Intertek	1	8/16/2019	8/16/2020	433	Overdue
MS-264-01	SW MS Regional Med Cen	3	3/9/2017	3/9/2021	41	Overdue

14. **Please provide the number of reciprocity licensees that were candidates for inspection per year as described in IMC 1220 and indicate the number of reciprocity inspections of candidate licensees that were completed each year during the review period.** **See Attachment, Q 14 Reciprocity**

NRC Guidance removed 20% requirement as of 12/1/2020.

	Priority 1	%	Priority 3	%	Priority 5	%
2017	4/11	36.4	2/9	22.2	3/45	3
2018	3/11	27.2	5/11	45	0/58	0
2019	5/13	38.4	4/8	50	1/56	1.7
2020	0/17	0	0/8	0	2/45	4.4
2021	1/17	5.88	0/6	0	0/44	

Reciprocity Priority 1-5

Total reciprocal agreements for **2017**:

Priority 5: 45 Total Reciprocal Agreements 3 Inspections completed of the 45 for a total of 6.7%
Priority 3: 9 Total Reciprocal Agreements 2 Inspections completed for a total of 22.2%
Priority 1: 11 Total Reciprocal Agreements 4 Inspections completed for a total of 36.4%

Total reciprocal agreements for **2018**:

Priority 5: 58 Total Reciprocal Agreements 0 Inspections completed
Priority 3: 11 Total Reciprocal Agreements 5 Inspections completed for a total of 45%
Priority 1: 11 Total Reciprocal Agreements 3 Inspections completed for a total of 27.2%

Total reciprocal agreements for **2019**:

Priority 5: 56 Total Reciprocal Agreements 1 Inspections completed for a total of 1.7%
Priority 3: 8 Total Reciprocal Agreements 4 Inspections completed for a total of 50%
Priority 1: 13 Total Reciprocal Agreements 5 Inspections completed for a total of 38.4%

Total reciprocal agreements for **2020**:

Priority 5: 45 Total Reciprocal Agreements 2 Inspections completed for a total of 4.4%
Priority 3: 8 Total Reciprocal Agreements 0 Inspections completed for a total of 0%
Priority 1: 17 Total Reciprocal Agreements 0 Inspections completed for a total of 0%

Total reciprocal agreements for **2021**:

Priority 5: 44 Total Reciprocal Agreements 0 Inspections completed for a total of 2.2%
Priority 3: 6 Total Reciprocal Agreements 0 Inspections completed for a total of 0%
Priority 1: 17 Total Reciprocal Agreements 1 Inspections completed for a total of 5.88%

Total reciprocal agreements for **2022**:

Priority 5: 45 Total Reciprocal Agreements 0 Inspections completed for a total of 0%
Priority 3: 6 Total Reciprocal Agreements 0 Inspections completed for a total of 0%
Priority 1: 17 Total Reciprocal Agreements 0 Inspections completed for a total of 0%

15. **What, if any, changes were made to your written inspection procedures during the reporting period?**

See attachment Q 15 Inspection Procedures

3.0 **Purpose** To establish the inspection program for licensees authorized to possess, use, transfer, and dispose of radioactive material associated with various types of use, i.e., industrial, academic, research and development, manufacturing, distribution, irradiators, well logging, industrial radiography, medical programs, various types of service (i.e., leak testing of sealed sources, calibration of instruments, servicing of devices, collection and repackaging of radioactive waste for final disposal), and transportation related thereto.

3.1 **Definitions**

Core Inspection: means all initial inspections of priority 1, 2, 3, and 5 licensees and all routine inspections of priority 1, 2, or 3 licensees.

Initial Inspection: means the first inspection after a license is issued.

Inspection: means the act of assessing licensee performance to determine if radioactive materials are used safely; and whether the licensee is in compliance with rules, regulations, statutes, license conditions, and the licensee commitments submitted in support of the application for license and incorporated in the license by "tie-down" conditions. Inspections include a visit to a licensee's facility and/or job site, observation of licensed activities, interaction with licensee personnel, and reporting of the inspection findings. Pre-licensing visits or telephone communications are not inspections.

Inspection Priorities: means the inspection priority assigned to a license is the frequency of routine inspections expressed in years, i.e., a priority 1 license is inspected every year. The priority is based on the potential radiation hazard of the licensee's program. A priority 1 license represents the greatest risk to the health and safety of the public and the environment and therefore; requires the most frequent inspection.

Non-Core Inspections: means routine inspections of priority 5 licensees, other than initial inspections.

Reactive Inspection: means a special inspection in response to an incident, allegation, or special information obtained by the Agency, e.g., misadministration reports. These inspections may focus on one or several issues and need not examine the rest of a licensee's program. If all of the activities normally reviewed during a routine inspection are not reviewed then the requirement to inspect the facility at an established frequency is not satisfied.

Routine Inspection: means a periodic, comprehensive inspection performed at a specified frequency.

Special Inspection: means those inspections where special guidance is needed. Those activities include: (1) inspections of expired licenses, terminated licenses, and licenses undergoing decommissioning (2) inspections of significantly expanded programs; (3) reciprocity inspections; (4) temporary jobsite or field site inspections; (5) inspections of abandoned licenses; and, (6) general licensee's program inspections.

Virtual Inspection: means Non Core Inspections, other than initial inspections, performed via remote platforms.

3.2 License Priorities

Each license is assigned a primary program code which sets the inspection priority and schedules the initial inspection. Attachment A "Inspection Priority By Program Codes" is a listing of materials programs and their associated inspection priorities. If a license involves more than one type of use, the type associated with the highest priority (most frequent) inspection shall establish the inspection priority.

An initial inspection is not performed for a new license that has been issued within 6 months of the expiration of a similar license, e.g., failure to submit a timely application for renewal.

3.3 Inspection Priorities

The performance of Reactive Inspections shall receive first priority in the inspection program followed by the performance of Core and Special Inspections.

Non-Core inspections shall be performed as resources permit.

3.4 Routine Inspections

A. Core Inspections- All initial inspections, regardless of the license priority, are to be conducted within 6 months of the receipt of licensed material; within 6 months of beginning licensed activities; or within 1 year of license issuance, whichever comes first. **Initial inspections shall be announced**.

Routine inspections of licenses in priorities 1 and 2 shall be conducted at intervals in years corresponding to the inspection priority. The inspection date may vary by +/- 50 % from the specified date; however, the last inspection date must be used when scheduling the next inspection. **Routine inspections shall be unannounced.**

Routine inspections of licenses in priority 3 shall be conducted at intervals in years corresponding to the inspection priority. The inspection date may vary by +/- 1 year from the specified date; however, the last inspection date must be used when scheduling the next inspection. **Routine inspections shall be unannounced.**

B. Non-Core Inspections- Priority 5 licenses shall be inspected at 5 year intervals. The inspection date may vary by +/- 1 year from the specified date; however, the last inspection date must be used when scheduling the next inspection. **The inspections shall be unannounced**.

Inspections will not be considered "overdue" until they exceed the scheduling window as specified above. Inspections may be scheduled before their window if the inspector receives information that warrants earlier inspection.

3.5 Reduction of Inspection Frequency

Based on poor licensee performance the interval between inspections may be reduced and inspections conducted more frequently than specified in the priority system. Poor performance is evidenced by moderate to severe problems in the radiation safety program; a poor compliance history, or; lack of management involvement or control over the radiation safety program. Reduction of inspection frequency shall be considered for licensees that meet one or more of the following conditions (this list is not all inclusive):

(1) Health and safety violations that could result in over exposures on the most recent inspection, (e.g. conducting industrial radiography inspections without an operable calibrated survey meter), or
(2) Issuance of an Order or escalated enforcement on the most recent inspection, or
(3) A "management paragraph" appears in the cover letter transmitting the notice of violation on the most recent inspection (management paragraph is a paragraph that requires the licensee to address adequate management control over the licensed program), or
(4) An event requiring a reactive inspection, or
(5) Repetitive violations.

The above list is not exhaustive; the inspection interval can and should be reduced for any other reason deemed pertinent by Director. An example would be an enforcement conference where the outcome did not include escalated enforcement action, but did indicate the need for the licensee to improve some aspect(s) of its compliance program.

Licensees that meet the above criteria may have their inspection interval reduced by any length. Health and safety violations that could result in over exposures or escalated enforcement action are usually inspected within 6 months or less.

The decision to reduce the inspection frequency is made by the Director and should be documented in the licensee's file. After completion of the next inspection a determination will be made to continue the reduced inspection frequency or returned to normal frequency inspection

3.6 Combining Inspections

If a licensee holds several licenses with different Program Codes that are assigned different Priority Codes, a single inspection may be scheduled whenever practical to aid

in more effective use of the inspector's time spent in travel status. In the determination to combine inspections on a continuing basis, consideration should be given to not "over-inspect" a lower-priority license versus the need and desirability to inspect a licensee's total activities for a more complete assessment of its safety and compliance performance. The priority designations of the lower-priority licenses shall not be changed in these cases; the more frequent inspections of lower-priority licenses shall be handled only in the scheduling process.

3.7 Reactive Inspections

Reactive inspections receive first priority in the inspection program.

Following the receipt of notification of an incident, allegation or special information such as a misadministration, the Director shall determine if an immediate inspection is warranted or if the issue is best covered during the next scheduled inspection. The emphasis during the reactive inspection will be on the analysis of the sequence of events and the conditions that existed at the time these events occurred. The analysis should lead to the determination of contributing factors and root causes and to the formulation of corrective actions to prevent recurrence. Generally, issues of compliance will be addressed after all safety issues and program weaknesses are identified and clearly understood.

A narrative inspection report will be written for all reactive inspections. The narrative report will include a discussion of the sequence of events leading up to the incident, the contributing and root causes of the event, corrective actions taken or proposed by the licensee, and a discussion of the regulations applying to the incident. The inspector shall annotate inspection reports with the NMED Event No. if the reactive inspection was initiated by an NMED reportable event.

A reactive inspection counts as a scheduled inspection only if the total licensed program is evaluated.

3.8 Special Inspections

The following activities require special inspections:

A. Expired and Terminated Licenses

Notification that a license has expired or is being terminated requires prompt action (i.e., within 30 days) to ensure that licensed material has been properly transferred or disposed of, and that all areas where material was used may be safely released for unrestricted use. Inspectors should be aware of the need for security and control of radioactive materials at these types of facilities. This may be done by review of the licensee's transfer, disposal, and closeout survey data; by confirmation that an authorized recipient has received the material; and/or by performance of an inspection that may include confirmatory surveys. The inspector should also review records of disposals. Such actions would be conducted as soon as appropriate after notification is received. If an inspection is performed, the inspector should also verify that the licensee is complying with regulations for timely decontamination and decommissioning. **This is an announced inspection.**

B. Significantly Expanded Programs.

A near-term onsite inspection for a significant licensing action may be performed if:

(1) The licensee has recently increased the types, quantities, and uses of radioactive material;
(2) The license authorizes a physical move of a facility or a new use at a temporary jobsite;
(3) The license authorizes new (i.e., since the previous inspection) satellite facilities where materials will be used or stored;
(4) The licensee has increased the types of uses or disposal (i.e., incineration or decay-in-storage) of radioactive material; and
(5) The number of authorized users has significantly increased or decreased.

C. Reciprocity Inspections

Rule 1.3.26 of the Mississippi Regulations for Control of Radiation grants a general license to any person, with a specific license from another Agreement State or NRC authorizing use at temporary job sites, to conduct the same activity in areas under Mississippi jurisdiction. The licensee must submit notification to the Agency days before engaging in the licensed activity. If, for a specific case, the 3 day period would impose an undue hardship on the out-of-state licensee, the licensee may, upon application to the Agency, obtain permission to proceed

sooner.

Reciprocity inspections should be performed in accordance with Inspection Manual Chapter (IMC) 2800 and NUREG-1556 Volume 20 Revision 1 "Consolidated Guidance about Materials Licenses: Guidance about Administrative Licensing Procedures," at a frequency based on priority for the program codes as follows:

Priority 1, 2 and 3 As needed, time permitting

Priority 5 As needed, time permitting

The priority of the license, the location of the activity and the time to be spent in the state should be factors in any such determination. **These inspections should be unannounced.**

D. Temporary Job Site or Field Office Inspections

(1) Temporary Job Sites. For a licensee authorized to work at a temporary job site, inspectors shall make every reasonable attempt to include an unannounced inspection of licensed activities at such a location(s).

(a) During the inspection of a licensee's principal place of business, the inspector should, through discussions with the licensee and review of licensed material utilization records, ascertain if the licensee is working at the temporary job site location(s).

(b) The inspector may contact the licensee's customer to schedule the temporary job site inspection. The licensee's customer should be requested not to notify the licensee of the inspection.

(c) If an unannounced inspection of the location(s) is not possible, then the inspector should attempt to arrange an announced inspection at the temporary job site(s).

(d) If a temporary job site inspection is not performed, a brief note will be written in the inspection records, giving an explanation for the missed temporary job site inspection.

(2) Permanent Field Offices.

(a) If the license authorizes licensed activities to be conducted from two or three permanent facilities (main office plus one or more field offices), only one location must be inspected at the interval specified in this chapter for the type of license. If the license authorizes licensed activities to be conducted from 4 to 10 permanent facilities (main office plus 3 to 9 field offices) at least 2 locations must be inspected at the interval specified in this chapter for the type of license. Inspections of various field offices should be rotated to assess the licensee's entire program over several inspection cycles.

(b) If the license does not authorize licensed activities at the main office location, the inspection should include the main office location to verify the licensee's audit program was implemented to determine the performance of its field office activities.

(c) If an inspection identifies significant program weaknesses, the Division will consider expanding the initial review to include additional field locations to determine the extent of the weakness.

E. Abandonment of Licensed Activities. Returned, undeliverable mail to licensees should trigger a prompt follow-up. The follow-up should include a telephone call to the licensee to establish the licensee's physical address. If telephone contact is not established, then an inspector should be sent to the licensee's site. The decision of when to send an inspector to a licensee's site should be based on the complexity of the licensed activities, and the types and quantities of licensed material.

F. Inspection of Generally Licensed Devices. Inspections of general licensees [other than reciprocity (10 CFR 150.20)] are normally performed as resources permit. However, if a specific licensee also possesses generally licensed devices that are on a GL registration the inspector will also verify the adequacy of the licensee's control and accountability of the devices during the routine inspection of the specific licensee. Inspections of general licensees shall also be made to resolve issues such as allegations, incidents, or indications of unsafe practices.

3.9 Virtual Inspections

This is a general overview of the Virtual RAM SOP. Changes will be implemented as issues arise from implementations and changes to facilities, equipment, regulations, and Department needs.

The inspector must use experience and good judgment during inspections. The SOP may not account for all possibilities encountered in the during the inspection. An experienced inspector's field knowledge may overcome these SOP deficiencies or the advice of a peer, manager, or program office may be needed. When problems are encountered with the SOP, inform your manager or the program office concerning the problem so that the SOP can be revised to address the issue.

1) Contact licensee to verify email and contact information and discuss inspection process.
2) Send Inspection Questionnaire to contact.

3) Send Request for Documents through MOVEit.

4) Review licensee's license and previous inspection.
5) Once documents have been received, review records to determine if records are complete and notify licensee if additional documentation is needed.
6) Once all records have been received, complete Department's section of Inspection Questionnaire and contact licensee to schedule virtual inspection.
7) Once inspection is complete, compose post inspection letter and send to Director for signature along with Inspection Questionnaire.

8) Send copy of letter to licensee and completed documents to department for licensee file if no non-compliance cited.
9) Follow-up with licensee after any non-compliance cited and responded to. Once complete, submit all documents to department for licensee file.

3.10 Preparation

To adequately prepare, an inspector shall review:

1) the license to determine if it has any unusual license conditions that would affect the approach to the inspection, i.e., authorization for an incinerator, authorization for use of material at temporary job sites,

2) the licensee's recent inspection and enforcement history, i.e., results of the last inspection and any outstanding open items and determining whether any events have been reported by the licensee during the current inspection cycle,

3) any commitments made by the licensee or restrictions imposed by the Agency as a result of a Confirmatory Action Letter or an Order issued since the last inspection,

4) any notes in the file regarding special inspection emphasis, i.e., a note to request a near term inspection regarding a significant licensing action. For example, an amendment for a new medical therapy modality under Rule 1.7.82 of the Mississippi Regulations for Control of Radiation shall be inspected within 12 months of the date of the amendment

To prepare for a reactive inspection, the inspector will review specific information for reactive inspections as determined by the inspector and his or her supervisor on a case-by-case basis.

Inspectors should anticipate whether or not they will encounter protected information during inspection of a licensee. Inspectors should be aware of minimum handling requirements for sensitive–unclassified information, i.e., Safeguards Information, Official Use Only, and Proprietary Information.

The inspector should identify the location of the licensee, make travel arrangements, discuss special aspects of the inspection with his or her supervisor (i.e., inspection of temporary job sites), and obtain the supervisor's approval for the travel itinerary.

Finally, the inspector selects appropriate and calibrated radiation detection instrumentation for the inspection, dosimetry, and obtains the appropriate inspection report.

The inspector must also be prepared to meet all entry requirements established by the licensee (i.e., view the licensee's safety video, use personal protective equipment, or meet any special requirements for entering sterile environments).

3.11 Onsite Inspection Activities

Based on the pre-inspection activities, the inspector should be prepared to evaluate a licensee's performance of the licensee's radiation safety program. Inspection activities described below include: focus areas, performance-based approach, necessary review and retention of copies of a licensee's records, communication of findings during an inspection, awareness of a licensee's safety culture, and common elements to every inspection

A. Focus Areas.

The inspector should conduct the inspection in a manner that will develop conclusions about licensee performance relative to the following focus areas:

(1) Security and control of licensed material;
(2) Shielding of licensed material;
(3) Comprehensive safety measures;
(4) Radiation dosimetry program;
(5) Radiation instrumentation and surveys;
(6) Radiation safety training and practices; and
(7) Management oversight.

These focus areas are structured as a performance expectation and address the activities or program areas most commonly associated with measures that prevent overexposures, medical events, or release, loss, or unauthorized use of radioactive material.

If the inspector concludes that licensee performance is satisfactory from a general review of selected aspects of a focus area, the inspection effort expended in reviewing that particular focus area will be complete. If the inspector determines

that the licensee did not meet the performance expectation for a given focus area, the inspector should conduct a more thorough review of that aspect of the licensee's program. The increased inspection effort may include additional sampling, determination of whether the licensee's procedures are appropriate, and a review of selected records maintained by the licensee documenting activities and outcomes.

B. Performance Based

The inspector should use a performance-based approach to evaluate the focus areas. A determination regarding safety and compliance with MSDH requirements should be based on direct observation of work activities, interviews with licensee workers, demonstrations by appropriate workers performing tasks regulated by MSDH, independent measurements of radiological conditions at the licensee's facility, and where appropriate, a review of selected records. A direct examination of these licensed activities and discussions with cognizant workers should provide an inspector with reasonable assurance of a licensee's ability to safely use radioactive material and is preferable to a review of selected records alone. In reviewing the licensee's performance, the inspector should cover the period from the last to current inspection. A further review of "historical" records should only occur if the current records are out of compliance and the inspector believes it necessary to determine the presence of a prevalent or persistent problem. However, older issues preceding the last inspection should be reviewed, if warranted by circumstances, such as incidents, noncompliance, or high radiation exposures.

C. Observations

Observations of licensee operations, interviews with staff, review of licensee documents to complement and support inspector observations, and radiation surveys to obtain independent and confirmatory measurements should then be conducted. Emphasis should be placed on observing licensee performance as it relates to staff training, equipment operation and adequacy, overall management of the licensed program, and integration of safety. The inspector shall not under any circumstances knowingly allow an unsafe work practice or a violation which could lead to an unsafe situation to occur or continue in his or her presence in order to provide a basis for enforcement action. Unless an inspector needs to intervene to prevent an unsafe situation, direct observation of work activities

should be conducted such that the inspector's presence does not interfere with licensed activities. For example, an inspector should not insist on interviews when:

(1) a worker is delayed in performing scheduled work activities (i.e., delayed departure to a temporary job site)
(2) a worker is preparing or administering dosages or doses,
(3) a worker is providing patient care, or
(4) a licensee is dealing with customers or members of the public.

D. Review of Records.

Review of licensee records and other documents should be directed toward verifying that current operations are in compliance and further review of "historical" records should only occur if the current records are out of compliance and the inspector believes it necessary to determine the presence of a prevalent or persistent problem. If the inspector finds it appropriate when an apparent violation has been identified, the inspector should gather copies, while onsite, of all records that are needed to support the apparent violation. The inspector should be aware whether or not the information reviewed or gathered has been declared as proprietary information by the licensee. In general, inspectors should use caution before retaining copies of licensee documents, unless they are needed to support apparent violations, expedite the inspection (i.e., licensee materials inventories), or make the licensing file more complete.

E. Informing the Licensee of the Inspection Findings

The inspector should advise the licensee of the inspection findings throughout the course of the onsite inspection. The inspector should allow ample time during the inspection for a licensee to correlate information about root cause, consequence, and corrective action for an apparent violation. The inspector shall clearly present apparent violations and confirm the licensees understanding and agreement that a violation occurred, preferably before leaving the site. Whenever possible the inspector should keep Radioactive Materials Branch Director (RMBD) informed of significant findings (i.e., safety hazards, willful violations, and other potential escalated enforcement issues) identified during the course of the inspection. This will ensure that the inspector is following appropriate course of action under such circumstances.

F. Licensee's Safety Culture

To have a positive impact on maintaining safety and effectiveness, the inspector should develop a general sense of the licensee's safety culture for licensed activities (i.e., workers have a "questioning attitude" and generally adhere to procedures, workers are duly cautious when engaged in licensed activities, worker relationships with supervisors are conducive to raising safety concerns). The inspector's conclusions about safety culture may only be useful when violations are identified and linked to significant risk (i.e., there are an unacceptable number of occurrences with unacceptable health and safety consequences).

G. Common Elements of an Inspection

(1) Entrance Meeting. After arriving on site, the inspector should inform the licensee's management representative of the purpose and scope of the inspection to be performed. This notification should be made as soon as practical after arriving on site. However, in certain instances, the inspector may choose to inform the licensee of his or her presence on site after initial observations of licensed activities currently in progress The purpose of the entrance briefing is to inform licensee management that an inspection is being conducted and to indicate the tentative schedule for discussing or reviewing selected inspection items with various licensee staff personnel. However, in some instances, the inspector may only need to inform management of MSDH's presence on site, and apprize management that an exit meeting will be conducted at the end of the inspection to detail the inspection findings. This is often an opportune time for the inspector to identify personnel to be interviewed. Scheduling interviews will enhance inspector efficiency and give the licensee the opportunity to have the most knowledgeable individuals present to respond in the areas being inspected.

The licensee representative should be asked to identify any recent problems related to the licensed program, such as equipment failures and unusual radiological problems (i.e., excessive personnel exposures, unexpected releases to the environment, QA problems, etc.). The representative's responses may help the inspector assess licensee management's awareness of the radiation protection

program. When an inspection is likely to involve proprietary information, given the technical area or other considerations of inspection scope, the inspector should discuss with licensee management during the entrance meeting how the information will be handled during the inspection.

(2) Follow up on Previous Items. Determine whether the licensee followed up on cited violations identified during the previous inspection. Determine whether the licensee took the corrective actions as described in its response to the NOV and followed-up on safety concerns and unresolved issues identified during the previous inspection.

(3) General Overview. The inspector should understand the current organization for radiation safety at the facility and the size of the current and anticipated radiation use program.

(a) Organization. Interview cognizant licensee representatives about the current organization of the program. Examine the licensee's organization with respect to changes that have occurred in personnel, functions, responsibilities, and authorities since the previous inspection. Identify the reporting relationship and management structure between the licensee's executive management, the Radiation Safety Officer (RSO), and, if applicable, the Chairperson and other members of the Radiation Safety Committee (RSC).

(b) Scope of Program. Interview cognizant personnel to determine the types, quantities, and use of byproduct material, frequency of use, staff size, etc., and anticipated changes in the range of the radiation use program. Determine if the licensee possesses material in accordance with a general license.

(4) Observation of Actual Facilities and Licensed Activities Inspector should observe work in progress that involves licensed activities. If there is no opportunity, then the inspector should ask the workers to demonstrate and explain selected licensed activities. It is of utmost importance to inspect licensed activities at temporary job sites.

(a) Perform a walk-through of the licensed facility to make general observations of the condition of the facility and the licensed activities being performed.

(b) Conduct inspections of licensed operations that are a potentially significant contributor to dose, regardless of shift.

(c) Perform routine inspections, when applicable, during first run operations.

(d) Make direct observations of radiation safety systems and practices in use.

(e) The walk-through may be performed at any time during the inspection. The inspector may need to return to some portions of the facility at a later time to observe specific activities.

(5) Independent and Confirmatory Measurements. Independent measurements are those performed by the inspector without comparison to the licensee's measurements. Confirmatory measurements are those whereby the inspector compares his or her measurements with those of the licensee's.

(a) The inspector should perform independent and confirmatory measurements in restricted, controlled, and unrestricted areas of the licensee's facility. Independent measurements should be performed on all inspections, unless exceptional circumstances make it impossible to perform the measurements (i.e., inspector's detection equipment malfunctions during an inspection trip). Measurements of dose rates at the boundaries of restricted areas should be performed at the surfaces of the most accessible planes.

(b) Examples of measurements that may be performed include area radiation surveys, wipe samples, soil samples, leak tests, air flow measurements, etc. These measurements should be taken in licensed material use areas, storage areas, effluent release points, etc.
Procedure for wipe samples {Before leaving for inspections where unsealed radioactive material is used; procure wipes, envelopes, marking utensil and appropriate survey meter (GM for beta emitting,

NaI for gamma) all very low gamma emitting radionuclides should be returned to the environmental lab at DRH for analysis)
-Wipe an area (typically 100 square cm) of the lab or hot lab that is suspected of contamination or in commonly used places e.g. lab counters, chairs, floors near working stations and waste receptacles.
-Go to an area that is reading background and analyze the sample.
-Label the sample and place it in an envelope and mark the reading on the inspection report.

(c) The inspector may ask the licensee to spot-check radiation levels in selected areas, using the licensee's own instrumentation, if the licensee possesses survey instrumentation. However, the inspector must use DRH's instruments for independent verification of the licensee's measurements. The inspector's instruments must be in current calibration and source checked before they leave the office.

(6) Special License Conditions. If applicable, verify the licensee's compliance with any special license conditions that are unique to a particular practice, procedure, or piece of equipment used by the licensee. In these instances, the inspector should verify that the licensee understands the additional requirements, and maintains compliance with the special license conditions.

(7) Exit Meeting. At the conclusion of the inspection the inspector should conduct an exit meeting with the most senior licensee representative present at the facility. If a senior management representative is unavailable for the exit meeting, the inspector should hold a preliminary exit meeting with appropriate staff onsite. As soon as practical after the inspection, the inspector shall hold an exit meeting directly with a senior management representative (and the licensee's RSO, if not present at the preliminary exit meeting). This meeting involving the licensee's management and RSO will usually be held by telephone conference call.

(a) For initial and routine inspections, the inspector should request the meeting and control the meeting for purposes of the inspection. During the meeting, the inspector shall explain any cited violation of MSDH requirements and the inspector's understanding of the licensee's corrective action plan for each violation. If the licensee disagrees with a violation, the inspector should contact his or her supervisor before leaving the site to obtain further instructions. It may be necessary to

continue the inspection or modify the cited violation. Before leaving the site, the inspector should inform the licensee about the next steps in the enforcement process. The inspector should explain safety-related concerns or unresolved items identified during the inspection, and the status of any previously identified violations. Prompt corrective action must be initiated by the licensee for safety concerns or violations of significant regulatory requirements that affect safe operation of a licensee facility. The inspector should not leave the site until the concern is fully understood by the licensee and corrective action has been initiated. If the inspector and the licensee disagree on the magnitude of the concern regarding safe operation of the facility, RMBD should be notified immediately. Although deficiencies identified in some areas (i.e., workers' knowledge of the requirements in Subchapter 4 of the MRCR) are not always violations, the inspector should bring such deficiencies to the attention of licensee management at the exit meeting and also in the Notice of Inspection Findings.

(b) For a reactive inspection, it is particularly important that the inspector inform the RMBD of the inspection findings and plan the exit meeting strategy before beginning the meeting. During the exit meeting, the inspector should explain the preliminary inspection findings including any apparent violations of regulatory requirements. The inspector should ask the licensee to confirm the licensee's understanding of the findings. If the licensee does not provide additional information and disagrees with the preliminary findings and apparent violation(s), the inspector should assure the licensee that the inspector will convey the licensee's disagreement to his or her RMBD and/or Director. The inspector should close the meeting and promptly leave the site without lingering for any further discussion before presenting these issues to management.

(8). Post-Inspection Activities. After returning from an inspection trip, the inspector shall discuss the results of the inspection trip with his or her supervisor. This discussion should be sufficient to alert the RMBD to significant enforcement, safety, or regulatory issues. The RMBD will immediately bring to the attention of the Director any health and safety violations.

3.12 Documentation of Inspection

The inspector will generally use the appropriate inspection report for the specific type of licensee (e.g. industrial radiography report for an industrial radiography). Some inspections such as broad scope licensees will be a narrative report. The basic intent of inspection reports is to provide a written record of inspections. The primary purposes of the written record are to: (1) provide a basis for compliance action and record the results of the inspection of the licensee; and, (2) provide information for management of the inspection program within the agency.

The minimum objectives of an inspection report are:

(1) To eliminate unnecessary detail in inspection reports by requiring documentation of only those facts necessary to form the basis for enforcement actions and to describe the scope and findings of inspections.

(2) To achieve uniformity in inspection reports.

The minimum content of the report requires detailed summarized information gathered during the inspection limited to subjects which are applicable and have safety significance, plus those subjects for which non-compliance items were found. Where a subject was not inspected or was found to be not applicable, the inspector need only indicate this finding in the report.

For subjects of lesser significance, the inspector need provide only a summary of information and gathered including no more than that which may be necessary to support a conclusion of adequacy. It is not necessary to record all information obtained during the inspection. The inspector should use judgment and record essential facts that will give an overall view of the licensed program.

A reasonable effort should be made to attribute information to the proper source, such as statements by named individuals, excerpts or summaries from specific records, and observations by the inspector. If the source information is obvious, it need not be specified. References to inspection requirements in written inspection procedures should be made as necessary to facilitate reviewing the results of the inspection.

A. CONTENTS

The report is a concise record of factual, accurate information which is used to

form the basis for compliance action, and describe the scope and findings of the inspection. At least it should include:

(1) Description of licensed activities, including name, address, license number, priority, license type, inspection date, inspectors, instrumentation, and scope of inspection.

(2) List licensee representatives and other individuals not employed by the licensee, who furnished information for the inspection. Limit the list to those at the technical and supervisory level and include the name and title of each individual. If convenient, indicate by an asterisk or other suitable note those individuals who participated in the exit interview.

(3) State actions on previous inspection findings. (Omit if not applicable). To the extent that licensee action on the previously noted compliance items and unresolved items was examined, it should be described. Appropriate reference to the items is made followed by a description of the findings and a statement as to whether each item included remains open or is closed.

(4) Functional or program areas inspected. This is the main body of the report containing sections describing the inspection of functional or program areas. It is divided, where possible, into paragraphs with titles of the inspection procedures under which the inspection was performed. The titles of procedures may be shortened or expanded to provide an adequate description of the information reported.

(5) Exit Meeting. List the names and position titles of persons present at the exit interview with licensee management. The inspector should identify each subject discussed at the meeting. It is not necessary to describe in detail the specific items discussed, a brief summarizing statement can be used. If the licensee's management has a position (agrees, disagrees, or comment) on compliance matters and unresolved items, this position should be factually documented. Any contact after the exit interview regarding changes in management's position on an item should also be reported.

B. Depth of Report

The depth of reporting for subjects inspected is related to the inspection findings

as follows:

(1) Noncompliance items and recommendations. It is necessary to provide full substantiating information for cited items of noncompliance and recommendations. For noncompliance items, the information required is a clear statement of the requirement - referenced, paraphrased or quoted - and a detailed description of the manner in which the licensee did not follow or meet the requirement. This description should be in sufficient detail to permit a knowledgeable reader to come to the same conclusion. The description of the item of noncompliance should include, as appropriate, the date(s) of the noncompliance, the means of identification (i.e., inspector observation, discussion, records, reports from licensee, etc.), the specific procedures, operation, or location involved, and the event or circumstances that occurred. If the requirement is conditional, the supporting information should describe the way in which the conditions are satisfied to make it clear that the requirement applies.

(2) Acceptable areas. For subjects examined and found to be acceptable, the inspector should report, as a minimum:

(a) what is inspected;
(b) dates covered by the examination or review;
(c) the acceptance criteria if other than regulations, license conditions or technical specifications; and,
(d) the findings or conclusions of the inspector.

It is not necessary to report all information gathered to support a conclusion of adequacy. Normally, the depth of reporting should be related directly to the significance of the subject examined and the information obtained. For example, examination of licensee logs and operating records for a specified period of time can be reported as a listing of the records examined and the dates covered. Similarly, the result of a tour of the licensee's facility can be reported as a brief series of observations or highlights of such observations. At the other end of the spectrum, follow-up of licensee reported events (e.g., incidents and overexposures) should be reported more fully, although it is not necessary to report all information obtained. Rather, the inspector should limit his reporting to the basis for concluding adequacy or keeping the item open. The objective is to report substantive information and minimize the reporting of information of lesser

importance or interest.

C. REPORT GUIDANCE

Specific guidance regarding handling of reports is as follows:

(1) Any finding leading to a conclusion that a noncompliance item occurred shall always be cited as a violation except for a minor licensee-identified item that was corrected by the licensee prior to the inspection. For example, the licensee had performed all leak tests within the required 6 month interval with the exception of one leak test. The licensee discovered the oversight and immediately had the source tested.

(2) Recommendations are made when deviations from acceptable or normal practice are noted and there is no regulatory basis for citation of noncompliance.

(3) The following types of information should not be included in inspection reports:

(a) Opinions of a personal nature by the inspector;

(b) Identity of persons giving confidential information to the inspector and any part of the confidential information that would reveal the identity of such persons;

(c) Personal identification information (e.g. social security numbers);

(d) Proprietary or safeguards information.

(4) Use of sketches (floor plans, equipment) and copies of licensee's forms and report should be used as attachments to the inspection report to provide clarity and to reduce the narrative portion of the report.

(5) Inspection reports should be completed and a draft of the "Notice of Inspection Findings" submitted to the RMBD for review as soon as possible, but no later than 30 days following the inspection. The RMBD signs the inspection report and The "Notice of Inspection Findings" The RMBD returns the report to the inspector for mailing and filing and the inspector places a copy of the Letter in

the inbox labeled 'Notice of Inspection Findings' for entry into the Inspection Log.

D. Filing the Inspection Report.

The inspection report and the related correspondence should be place on the right side of the license file in the following order, bottom to top:

(1) Inspection report with attachments.

(2) Radioactive Materials Safety Inspection Report for inspections with no violations **OR** Notice of Inspection Findings letter detailing violations.

(3) Licensee's response letter to Notice of Inspection Findings letter (if applicable) and copy of acknowledgement letter from MSDH.

E. Data Entry

After the report has been filed, the data entry should be completed in the most recent version of the RAM database that exists on the server. All inspection related fields on the 'Specific License' tab should be updated with inspection type (e.g. Field, Office, Part 37, etc.), inspection date, previous inspection and next inspection due date. The ONIF Issue date field should also be updated to reflect the date of the letter. Additionally, inspectors should log their inspections in the appropriate year (e.g. 'Inspection Log 2021') and complete all applicable fields.

Inspector's should also keep their own personal log of their inspection schedules and completed inspections.

Attachment A

INSPECTION PRIORITY CODES ASSIGNED TO PROGRAM CODES

Program	Priority	Category Title	Remarks
01100	3	Academic Broad	Radiation Safety Committee (RSC)-approved users; 33.13
02110	2	Medical Institution Broad	RSC-approved users for possession and use of a wide range of radionuclides in medical research, diagnosis, and therapy and research and development
02120	2	Medical Institution-Written Directive (WD) Required	Used as primary code and may be used with the secondary codes for research and development, as appropriate. Used as secondary code when the license also authorizes certain medical therapy modalities.
02121	5	Medical Institution-WD Not Required	Used as primary code *only* for diagnostic nuclear medicine and diagnostic types of use under 35.1000.
02201	5	Medical Private Practice – WD Not Required	[same remark as 02121]
02200	3	Medical Private Practice – WD Required	Same remark as 02120
02210	3	Eye Applicators Strontium-90 (Sr-90)	Institution or Private Practice
02220	3	Mobile Medical Service-WD Not Required	Use as a primary code if the license authorizes the mobile service only. Use as a secondary code if the license authorizes medical use at a

			central facility (i.e., institution or private practice facility) in addition to the mobile service.
02230	2	High-Dose Rate Remote After Loader (HDR)	Use as a primary code.
02231	2	Mobile Medical Service- WD Required	Use as a primary code. Includes mobile HDR and non-HDR modalities under 10 CFR Part 35.
02240	2	Medical Therapy – Other Emerging Technology	Medical therapy modalities used under 10 CFR 35.1000, i.e., liquid sources, microspheres, and intravenous brachytherapy devices.
02300	3	Teletherapy	Treatment of human subjects only
02310	2	Gamma Stereotactic Radiosurgery (GSR)	Treatment of human subjects only
02410	5	In-Vitro Testing Laboratories	Licenses are issued to individuals or facilities which are not included in larger programs described by Program Codes 02110 or 02120
02500	2	Nuclear Pharmacies	Receive bulk material used to prepare single use dosages or multi-dose products which are distributed to authorized medical licensees. Sealed sources are redistributed in the original packaging to authorized clients.
03110	3	Well Logging Byproduct and/or Special Nuclear Material (SNM) Tracer and Sealed Sources	Use of sealed or unsealed sources for exploration of oil, gas, or minerals in wells.
03111	3	Well Logging Byproduct and/or SNM Sealed Sources Only	Exploration of oil, gas, or minerals in wells; study of subsurface potable aquifers.
03112	3	Well Logging Byproduct Only – Tracers Only	Exploration of oil, gas, or minerals in wells

03113	3	Field Flooding Studies	Injection of unsealed byproduct materials for tracing oil and gas reservoirs
03120	5	Measuring Systems Fixed Gauges	Non-portable gauges for measurement or control of material density, flow, level, thickness, or weight, etc.
03121	5	Measuring Systems Portable Gauges	Moisture/density gauges contain gamma and neutron sources used for measurements in soils, compacted soils and road surfacing materials.
03122	5	Measuring Systems Analytical Instruments	i.e., x-ray fluorescence analyzers
03123	5	Measuring Systems Gas Chromatographs	Quality control testing of samples from industrial process and environmental conditions.
03219	3	Decontamination Services	Cleaning of scrap materials for authorized release for unrestricted use.
03220	5	Leak Test Service Only	Commercial service organizations provide leak test kits to clients, perform measurement of leak test samples from clients, and issue reports of leak test results.
03221	5	Instrument Calibration Services Only	Commercial calibration service
03225	5	Other Services	Commercial servicing for teletherapy, industrial gauge, and HDR licensees.
03310	2	Industrial Radiography Fixed Location	Permanent radiographic installation (PRI) or designated field station. Use as secondary code, except when the license authorizes the PRI *only*.
03320	1	Industrial Radiography	Use as primary code for multiple

		Temporary Job Sites	temporary customer locations
03510	5	Irradiators Self Shielded Less Than or Equal to 10,000 Curies	Not external beam
03511	3	Irradiators Other Less Than or Equal to 10,000 Curies	Panoramic (in air or under water) units; includes converted teletherapy units
03520	3	Irradiators Self Shielded Greater Than 10,000 Curies	Not external beam
03521	2	Irradiators – Other Greater than 10,000 Curies	Panoramic (in air or under water) units; includes sterilization (mega-curie) units
03610	2	Research and Development Broad –Type A	RSC-approved users under 1.3.11
03620	5	Research and Development Other	Non-human research subjects
03710	5	Civil Defense	Instrument calibration and training

16. **Prepare a table showing the number and types of supervisory accompaniments made during the review period.**

Inspector	Supervisor	License Category	Date
Benjamin Culpepper	Jayson Moak	2120	12/1/2017
Rob Sims	BJ Smith	3111	9/23/2021
Jeff Algee	BJ Smith	2120	9/30/2021
Jayson Moak	Jeff Algee	2310	12/13/2017

*****Note-supervisor accompaniments were not completed annually for the years 2018-2020*****

17. **Describe or provide an update on your instrumentation.**

Ludlum 14C
Ludlum 3
Ludlum 2241-3
Ludlum 19
BNC SAM 940
Ludlum 26
Ludlum 26-1 NOS N0-2000
Ludlum 193-6 Ludlum PRM-6
Ludlum 17 ion chamber Ludlum 15
NOS RA-500
Thermo PRO Rad-Eye Thermo PRO Rad-Eye ER

a. **Methods of calibration.**

Survey instrumentation is calibrated annually by contractor Logan Cowart (Vendor ID 3102044049) using a QSA Model 773 calibrator containing a 169.7 mCi Cs-137 source. Instrumentation that is broken or requires calibration for alpha or neutron detection is sent to the manufacturer or service provider.

b. **Are all instruments properly calibrated at the present time?**

YES (Next calibration due and scheduled Feb 2022)

c. **Were there sufficient calibrated instruments available throughout the review period?**

We have a sufficient number of calibrated instruments for inspections.
All survey instruments used for inspections are currently calibrated at the present time. This does not include the BNC SAM 940, which is used for isotopic identification purposes only.

d. **Laboratory capabilities.**

Environmental Branch Laboratory is able to analyze contamination wipes and samples. They have alpha/beta counters using proportional and liquid scintillation counters as well as high purity germanium detectors.

18. **How many specific radioactive material licenses does your program regulate at this time?**

244 (As of 20 JAN 22)

19. **Please identify any major, unusual, or complex licenses which were issued, received a major amendment, were terminated, decommissioned, submitted a bankruptcy notification or renewed in this period.**

Cardinal Health Renewal Entirety
(PET cyclotron)
Decommissioning of Mississippi Power with over 184 sources.
(Rob Simms performed termination and Julia McRoberts performed peer review)
Boots Smith Well Logging
(termination and transfer of sources)

20. **Discuss any variances in licensing policies and procedures or exemptions from the regulations granted during the review period.**

Due to the circumstances surrounding 2020, a remote licensing officer (RLO) position was established and new updated procedures for licensing have been created and updated. There have been no exemptions from the regulations granted during the review period. Since the previous IMPEP review in 2017 and prior to the installation of the RLO, one major variance in licensing action was in medical authorizations. MSDH now requires NRC Form 313 to be submitted by any medical licensee requesting a change in RSO or to verify the preceptorship of an authorized user request for therapeutic procedures.

21. **What, if any, changes were made in your written licensing procedures (new procedures, updates, policy memoranda, etc.) during the reporting period?**

Changes were made to the written licensing procedures to account for the RLO hire. These procedures did not change the scope of licensing, instead they were updated to reflect electronic submissions of amendments, the peer review process, form updates, the use of Docusign and sending electronic licenses via MoveIt (Part 37 licenses) or via PDF file.

22. **Identify by licensee name and license number any renewal applications that have been pending for one year or more. Please indicate why these reviews have been delayed and describe your action plan to reduce the backlog.**

At this time, there are no renewal applications that have been pending for a year or more. Notifications have been made to licenses that have expired and we are current with all applications that may have been overlooked during the events of 2020. Those applications (and subsequent amendment requests or renewal applications) have been logged and are being reviewed according to their position in the review queue.

23. For Agreement States, please provide a list of any reportable incidents not previously submitted to NRC (See Procedure SA-300, Reporting Material Events, for additional guidance, OMB clearance number 3150-0178).

Licensee Name	License #	Date of Incident/Report	Type of Incident
MS-17001, MS Power Company	MS-1062-01	5/30/2017	Stuck shutter Reported
MS-17002, UMMC	MS-EBL-01	8/18/2017	Medical event HDR
MS-17003, Steel Dynamics	MS-1003-01	9/26/2017	GL device
MS-17004, NA	NA	Not Reportable	Allegation (NORM pipe)
MS-17005, Merit Health River	MS-715-01	Not Reported	Wrong Patient
MS-17006, Southern Recycling	GL-397	10/13/2017	Lost source
MS-18001, Eaton	EM-23	Not Reportable	contamination
MS-18002, Delan George Auto	GL-426	2/14/2018	lost source
MS-18003, Ed Besaw	N/A	Not Reportable	GL device
MS-18004, MDOT	MS-261-01	Not Reportable	Troxler gauge
MS-18005, Tronox	MS-149-01	Not Reportable	Gauge bracket
MS-18006, Mistras	MS-995-01	8/6/2018	Frog x-ray
MS-18007, Hudspeth Reg Center	NA I-131	Not Reported	patient waste
MS-19001, MDOT	MS-261-01	2/15/2019	stolen gauge
MS-19002, Bid River landfill	NA	Not Reportable	contaminated trash
MS-19003, Bhate Geosciences	MS-1018-01	6/28/2019	stolen gauge
MS-19004, Cardinal Health	MS-974-01	10/29/2019	carjacking/PET doses
MS-19005, Mistras	MS-995-01	12/3/2019	Over exposure
MS-20001, ALS Industrial PTY	LA-13553-L01	1/9/2020	radiography
MS-20002, NuMed Rx	MS-1006-01	Not Reportable	transportation
MS-20003, Dickerson & Bowen	MS-512-01	10/1/2020	gauge damage
MS-20004, Blues City Brewery	TN GL-125	TN Event	Lost Device
MS-20005, MS Power Company	MS-1062-01	Not Reportable	fire/no gauge damage
MS-20006, Tronox	MS-149-01	4/10/2020	stuck shutter
MS-21001, Greenway Env.	NA	Not Reportable	Medical Waste
MS-21002, ATS Inc.	AL-1454	10/4/2021	Source Disconnect
MS-21003, DAK	MS-871-01	Not Reportable	Stuck Device

24. **Identify any changes to your procedures for responding to incidents and allegations that occurred during the period of this review.**

No change

A QI Team Policy Subgroup was created to strengthen and standardize existing allegation policy/procedures. A review of Tennessee and North Carolina allegation policy/procedures indicated a streamlined approach could be utilized to combine complaints, allegations, and incidents (CAI) into one policy. The QI Team Policy Subgroup developed CAI policy, procedure, reporting tables, standardized response letters and forms. On February 1, 2018, team members were assembled for training on the leadership approved CAI Policy and Procedure. A policy gist of changes was provided and the team conducted CAI training scenarios to ensure knowledge, skill, and ability. All CAIs will be investigated to determine whether substantiated/unsubstantiated and closed out. All CAIs will be documented and filed in the CAI file for each year.

The QI Team Policy Subgroup reviewed the existing Nuclear Material Event reporting procedure and determined the expectations for nuclear material event reporting could be added to the Complaint Allegations and Incident (CAI) Policy and Procedure. All Radioactive Materials Branch staff was trained on the nuclear material event reporting expectations of the CAI Policy on February 1, 2018, which includes the reporting requirements set forth in SA-300. 100% of incidents are documented, filed, and reported to the NRC according to SA-300. Since the IMPEP, all incidents for licensee material events that required reporting have been reported to the NRC in a timely manner, to include one incident involving a fixed gauge stuck shutter. All incidents reported to NRC have been updated and closed as required.

25. **Please list all currently effective legislation that affects the radiation control program. Denote any legislation that was enacted or amended during the review period.**

Mississippi Radiation Protection Law of 1976

House Bill 289 (Increase in Radiological Fees) effective 8-1-2016

26. Are your regulations subject to a "Sunset" or equivalent law? If so, explain and include the next expiration date for your regulations.

No

27. **Please review and verify that the information in the enclosed State Regulation Status (SRS) sheet is correct. For those regulations that have not been adopted by the State, explain why they were not adopted, and discuss actions being taken to adopt them. If legally binding requirements were used in lieu of regulations and they have not been reviewed by NRC for compatibility, please describe their use.**

Mississippi adopted NRC regulations by reference.
All outstanding regulations are complete
See attachment "NRC Review"

28. **If you have not adopted all amendments within three years from the date of NRC rule promulgation, briefly describe your State's procedures for amending regulations in order to maintain compatibility with the NRC, showing the normal length of time anticipated to complete each step.**

Once the NRC completes their review, pending any comments, the proposed regulations will be sent to the Mississippi State Board of Health for adoption with an open public comment period. Pending the open public comment period, the regulations will be set for adoption by the Mississippi State Board of Health.

29. **Prepare a table listing new and amended (including transfers to inactive status) SS&D registrations of sources and devices issued during the review period.**

N/A

30. **Please include information on the following questions in Section A, as they apply to the SS&D Program:**

N/A

31. **Please include information on the following questions in Section A, as they apply to the Low-Level Radioactive Waste Disposal Program:**

N/A

32. **Please include information on the following questions in Section A, as they apply to the Uranium Recovery Program:**

N/A