

August 28, 2001

F. E. Thompson, Jr., M.D.
State Health Officer
Mississippi Department of Health
570 East Woodrow Wilson Avenue
Jackson, MS 39216

Dear Dr. Thompson:

On August 16, 2001, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Mississippi Agreement State Program. The MRB found the Mississippi program adequate to protect public health and safety and compatible with the Nuclear Regulatory Commission's program.

NRC recognizes the efforts of Mississippi and the other Agreement States to maintain an adequate and compatible program. During the MRB meeting, the impact of high staff turnover on the Mississippi Agreement Program was discussed. Mississippi's efforts to maintain an effective program while at the same time devoting significant effort in hiring and training new staff by experienced staff is commendable. We note the present level of funding given to the Mississippi Program has a certain level of fragility associated with it. Your consideration of methods to minimize staff turnover could result in further strengthening of the program. For example, other Agreement States have examined salary structures in their assessment of staff turnover.

Section 5.0, page 14, of the enclosed final report presents the IMPEP team's recommendations for the State of Mississippi. We request your evaluation and response to these recommendations within 30 days from receipt of this letter.

Based on the results of the current IMPEP review, the next full review will be in approximately four years.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review and your support of the Radiation Control Program. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely,

/RA/

Carl J. Paperiello
Deputy Executive Director
for Materials, Research and State Programs

Enclosure:
As stated

cc: See next page.

cc: Kaye Bender, Deputy State Health Officer
Mississippi Department of Health

Ricky Boggan, Director
Office of Health Regulations

Rick Herrington, Director
Bureau of Environmental Health

Robert W. Goff, Director
Division of Radiological Health

Pearce O' Kelley, SC
OAS Liaison to the MRB

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF MISSISSIPPI AGREEMENT STATE PROGRAM

May 21-25, 2001

FINAL REPORT

U.S. Nuclear Regulatory Commission

1.0 INTRODUCTION

This report presents the results of the review of the Mississippi radiation control program. The review was conducted during the period May 21-25, 2001, by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the State of California. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Recission of Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the November 5, 1999, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period January 31, 1997 to May 21, 2001, were discussed with Mississippi management on May 25, 2001.

A draft of this report was issued to Mississippi for factual comment on June 22, 2001. The State responded in a letter dated July 9, 2001. The Management Review Board (MRB) met on August 16, 2001 to consider the proposed final report. The MRB found the Mississippi radiation control program was adequate to protect public health and safety and compatible with NRC's program.

The Mississippi Agreement State Program is administered by the Division of Radiological Health (the Division) with the day-to-day operations managed by the Radioactive Materials Branch (the Branch). The Division also contains the X-Ray Branch and the Environmental, Emergency Response, Radioactive Waste, and Transportation Branch. The Division is located within the Bureau of Environmental Health of the Office of Health Regulation. The Office of Health Regulation is located within the Mississippi Department of Health (the Department), which is overseen by the State Health Officer, who is appointed by and reports to the Governor. The Division is under the supervision of the Division Director and the Branch is under the supervision of the Health Physicist Administrative (Branch Director). The Branch Director reports directly to the Division Director. An organization chart for the Department is included as Appendix B. At the time of the review, the Mississippi Agreement State Program regulated 314 specific licenses authorizing Agreement materials. The review focused on the materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Mississippi.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Division on February 21, 2001. The Division provided its response to the questionnaire on April 25, 2001. A copy of the questionnaire response is included as Appendix G of the proposed final report and can be found on the NRC's Agencywide Documents Access and Management System (ADAMS) using the accession number (ML012200223).

The review team's general approach for conduct of this review consisted of: (1) examination of the Division's response to the questionnaire, (2) review of applicable Mississippi statutes and regulations, (3) analysis of quantitative information from the Division licensing and inspection data bases, (4) technical review of selected files, (5) field accompaniments of three Branch inspectors, and (6) interviews with staff and management to answer questions or clarify issues. The team evaluated the information that it gathered against the IMPEP performance criteria for each common and applicable non-common indicator and made a preliminary assessment of the radiation control program's performance.

Section 2 below discusses the Division's actions in response to recommendations made following the previous review. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-common performance indicators, and Section 5 summarizes the review team's findings and recommendations. Recommendations made by the review team are comments that relate directly to performance by the Division. A response is requested from the Division to all recommendations in the final report.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous routine review, which concluded on January 31, 1997, six recommendations were made and the results were transmitted to Mr. Ricky L. Boggan, Director, Bureau of Environmental Health, on May 23, 1997. The team's review of the current status of these recommendations is as follows:

1. The review team recommends that all initial inspections be performed within six months of license issuance or within six months of the licensee's receipt of material and commencement of operations, consistent with Inspection Manual Chapter (IMC) 2800.

Current Status: The Division implemented this recommendation. The Division revised its policy to require that all licensees receive an initial inspection within the first six months of license issuance or within six months of the licensee's receipt of material and commencement of operations. However, as discussed in Section 3.1, the Division's ability to perform these inspections timely was impacted by the loss of staff. This recommendation is closed.

2. The review team recommends that the State give priority to filling the vacant HP Trainee position.

Current Status: The Division implemented this recommendation by filling the HP trainee position in 1997. This recommendation is closed.

3. The team recommends that all "temporary job location" licensees be notified of their responsibility for determining federal jurisdiction, and that the All Agreement States Letter SP-96-022 be utilized to revise the State's standard license condition for use of material at temporary job sites.

Current Status: The Division implemented this recommendation by notifying all licensees that perform licensed activities at temporary job-sites of their responsibility for determining federal jurisdiction. The Division revised its standard license condition for use of radioactive material at temporary job sites as suggested in the All Agreement States Letter SP-96-022. This recommendation is closed.

4. The team recommends the use of deficiencies closely follow the revised enforcement procedure, particularly when regulations are cited.

Current Status: This recommendation is no longer applicable. The Division's enforcement procedure has been modified to eliminate the use of deficiencies.

Violations of regulations or license conditions are cited consistently with the Division's revised enforcement procedures. This recommendation is closed.

5. The review team recommends that the State send in information of the reportable events that were not previously reported to NRC and continue voluntary reporting of all reportable events in the Nuclear Material Events Database (NMED) database system collection of material events by providing event information directly into the NMED system electronically or providing compatible information in written form, in accordance with guidance contained in the "Handbook on Nuclear Material Event Reporting in the Agreement States," Draft Report, March 1995.

Current Status: The Division implemented this recommendation. Division staff received NMED training on April 16, 1997 from NRC staff. Staff is currently entering all event reports in the NMED system. This recommendation is closed.

6. The team recommends that the State review and revise, as appropriate, its procedures for conducting onsite response to incidents whenever there is a potential for radiation exposure or radioactive contamination of the public.

Current Status: The Division implemented this recommendation. During the review period, the Division responded to all incidents in a manner commensurate with their health and safety significance. This recommendation is closed.

The 1997 review team also offered five suggestions for the Division to consider. The team found that the Division considered and adopted all five suggestions.

3.0 COMMON PERFORMANCE INDICATORS

IMPEP identifies five common performance indicators to be used in reviewing both NRC Regional and Agreement State programs. These indicators include: (1) Status of Materials Inspection Program, (2) Technical Quality of Inspections, (3) Technical Staffing and Training, (4) Technical Quality of Licensing Actions, and (5) Response to Incidents and Allegations.

3.1 Status of Materials Inspection Program

The team focused on four factors in reviewing this indicator: inspection frequency, overdue inspections, initial inspection of new licenses, and timely dispatch of inspection findings to licensees. The review team's evaluation is based on the Division's questionnaire responses, data gathered independently from the Division's licensing and inspection data tracking system, the examination of completed licensing and inspection casework, and interviews with management and staff.

The team found that the Division's inspection priorities required inspections as frequent as, or more frequent than, IMC 2800 for similar license types. For example, the inspection of well-logging licensees was Priority 2 on the Division's schedule and Priority 3 in IMC 2800.

Due to a significant loss of staff during 1998, as discussed in depth in Section 3.3, not all inspections were conducted at the required frequency during the review period. Specifically, the team reviewed 63 inspections, including 31 core licenses, to determine the number of

overdue inspections completed by the Division during the review period. Of the inspections reviewed, 25 out of 63 inspections were performed overdue by more than 25% of the NRC frequency. On average, these inspections were performed overdue by approximately 50% of the NRC frequency. During the time-frame when the majority of overdue inspections were performed, the Branch Director managed the significant backlog by deferring, rescheduling and performing inspections himself. There was no apparent health and safety impact or type of license bias due to the deferrals. The Branch fully recovered from the loss of staff in the inspection program by January 2000. The review team found the Division's response to the loss of staff acceptable and no performance issues were identified.

At the time of the review, only one license was overdue for inspection; however, the license had not been actively operating since 1995. A decommissioning plan had recently been incorporated into the license, and a pre-decommissioning site visit was scheduled for the week following the IMPEP review.

As noted in Section 2.0, the Division revised its policy to require that all licensees receive an initial inspection within the first six months of license issuance or receipt of material. However, this procedure is not yet reflected in the Division's written procedures regarding initial inspections. The review team and Branch staff discussed updating the procedures to reflect the current policy of the Division. The Division's ability to actually perform initial inspections within six months of license issuance was impacted until January 2000 due to the loss of staff. The Division issued 85 new licenses during the review period. The review team evaluated four initial inspections. Of these, three were performed more than six months after license issuance, from seven to fourteen months after license issuance. At the time of the review, there were no new licenses overdue for the initial inspection.

The team also noted that new licenses were hand delivered to the core medical licensees. The inspectors used the opportunity to discuss the requirements of the license and the regulations with the licensee, and to verify that the equipment and facilities were as represented in the license application. The Branch Director indicated that this initial face-to-face meeting with the licensees was a very valuable tool for achieving future compliance with license conditions. The visit also allowed the Branch staff to make sure that the licensee's safety program was in place and permitted open discussion with the licensee about compliance requirements. The Division does not consider these new license visits as substituting for the initial inspection.

During the inspection casework review, the team evaluated the timeliness of the Division in providing inspection findings to the licensees. Division's procedure required providing inspection findings to the licensees "as soon as possible" after the inspection. Of the 21 inspections reviewed, all the inspection reports were issued within 30 days.

To evaluate the reciprocity inspection program, the review team evaluated a manually kept log of reciprocity inspections, reciprocity inspection files, and the Division's response to the IMPEP questionnaire. In the IMPEP questionnaire response, the team noted that the breakdown by inspection priority of licensees granted reciprocity reflects the Division's assigned inspection priorities. In many cases, the Division's reciprocity priorities exceed that of the NRC. Overall during the review period, the Division did meet the IMC 1220 goals, although that is not reflected in the data provided in the Division's response to the IMPEP questionnaire.

The criteria in Management Directive 5.6 allow that in programs where management addresses deficiencies and completes actions to deal with overdue inspections and other aspects affecting the status of the materials inspection program, a finding of satisfactory is supported as opposed to a satisfactory with recommendations for improvement or unsatisfactory finding. In this case, consistent with this criteria for a satisfactory rating, Division management was aware of the backlog of inspections and took mitigative actions such as hiring and training new staff, prioritizing inspections, and balancing staff workload to bring the program up-to-date at the time of the review.

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

3.2 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and inspection field notes and interviewed inspectors for 21 inspections conducted during the review period. The casework included all three of the Branch's materials license inspectors, and covered inspections of various types including radiography, medical, academic, portable gauge, nuclear pharmacy, and a pool irradiator. Appendix C lists the inspection casework files reviewed for completeness and adequacy with case-specific comments.

Based on the casework, the review team noted that routine inspections covered all aspects of the licensees' radiation programs. The review team found that inspection reports were thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that licensees' performance with respect to health and safety was acceptable. The documentation supported violations, and recommendations made to the licensee, unresolved safety issues, and discussions held with the licensee during exit interviews. Team inspections were performed when appropriate and for training purposes.

The inspection procedures utilized by the Branch were consistent with the inspection guidance outlined in NRC's IMC 2800, although the review team discussed the addition of language regarding root cause evaluation to the procedures. Inspection reports are in a format that covers all inspection areas for each inspection type.

The Branch has an adequate number and variety of survey meters to support the current inspection program. Survey meters are calibrated at least annually by a contractor. The team observed that the Branch had appropriately calibrated survey instruments, such as GM meters, scintillation detectors, ion chambers, micro-R meters and neutron meters. The Branch also has access to a very well-equipped on-site laboratory, which includes a multi-channel analyzer system, three high purity germanium detectors, one lithium drifted germanium detector, two liquid scintillation counting systems, and two low background alpha/beta counting systems for counting wipes, soil samples, water samples and other samples.

During the review period, the Branch Director performed inspector accompaniments with each of the staff at least annually. These accompaniments are listed in the Division's response to the IMPEP questionnaire.

Three inspectors were accompanied by an IMPEP team member during the week of May 14, 2001. The accompaniments included inspections of a nuclear pharmacy, a field radiographic site, and a nuclear medicine clinic. The facilities inspected are identified in Appendix C.

During the accompaniments, each inspector demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted performance-based inspections. The inspectors were trained, well prepared for the inspection, and thorough in its audits of the licensees' radiation safety programs. Each inspector conducted effective interviews with appropriate licensee personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. Their inspections were adequate to assess radiological health and safety at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommends that Mississippi's performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

3.3 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Branch's staffing level and staff turnover, as well as the technical qualifications and training histories of the staff. To evaluate these issues, the review team examined the Division's questionnaire responses, interviewed Division management and staff, reviewed job descriptions, training plans, and training records. The review team also considered any possible workload backlogs in evaluating this indicator.

The Branch is authorized for five positions. These positions include the Branch Director, two Health Physicist (HP) Senior positions, and two HP positions. All HP staff perform duties in licensing, inspection, and event response. Balance between the licensing and inspection functions is achieved by basing staff assignments on program needs.

Successful candidates for technical positions are required to have a bachelor's degree in science for a first level HP and a master's degree and/or additional radiation-related work experience for positions beyond entry level. The team noted that the Division has been able to recruit qualified staff.

The Branch has a documented training plan that is consistent with the requirements in the NRC/Organization of Agreement States Training Working Group Report and IMC 1246. The Branch also has on-the-job training to supplement the course work so that individuals may broaden their work areas. As a part of the Branch's in-house and on-the-job training processes, new staff members are assigned increasingly complex licensing duties under the direction of senior staff and accompany experienced inspectors during increasingly complicated inspections. New staff inspectors are assigned independent inspections after demonstrating competence during accompaniment evaluations by the senior staff. The Branch Director determines when the individual is proficient and can perform the assigned tasks independently. The inspection reports and licensing actions of new staff are also closely reviewed by the Branch Director and Division Director. The team noted that the Branch exhibited a strong commitment to training during the review.

Four staff members departed during the IMPEP review period for higher paying positions. Three staff members departed in 1998. These departures included one HP Senior, one HP,

and one HP trainee. For a short period in September 1998, the Branch consisted of the Branch Director and one HP, who was in training.

During the 1997 IMPEP review, the Division Director indicated that short-term inspection backlogs could occur if additional staff effort is needed to respond to events, or if either of the two senior staff members left the Branch. Although there were no backlogs in routine licensing actions and inspections at the time of the review, there were delays in inspections and updating of regulations as a result of the large staff turnover.

From January 1, 1998 through October 5, 1999, the Branch Director assumed the responsibilities of an HP Senior by conducting the licensing actions and inspections of all Priority 1 and 2 applications and licenses, by conducting all reciprocity inspections, and by responding to all incidents. Also, the Branch Director hired, developed, and trained new staff during this period. The Division Director assumed the lead responsibility for updating regulations. The Division's efforts to maintain their program while at the same time devoting significant effort in hiring and training new staff by experienced staff throughout the review period are commendable.

The Branch filled the three vacancies expediently and promptly trained the new staff. However, the newly hired HP Senior subsequently left the Branch in February 2001, which resulted in a vacant HP Senior position at the time of the review. This vacancy will have an impact on the inspection program and regulation development. The review team recommends that the Division give priority to filling the vacant HP Senior position.

Based on the IMPEP evaluation criteria, the review team recommends that Mississippi's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed the staff for 24 specific licenses. Licensing actions were evaluated for completeness, consistency, proper isotopes and quantities used, qualifications of authorized users, adequate facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Licenses were evaluated for overall technical quality including accuracy, appropriateness of the license, its conditions, and tie-down conditions. Casework was evaluated for timeliness; adherence to good health physics practices; reference to appropriate regulations; financial assurance, documentation of safety evaluation reports, product certifications or other supporting documents; consideration of enforcement history on renewals; pre-licensing visits, peer or supervisory review as indicated; and proper signature authority. The files were checked for retention of necessary documents and supporting data.

The licensing casework was selected to provide a representative sample of licensing actions that were completed during the review period. The sampling included the following types: well logging, industrial radiography, medical (institution, private practice, broad scope, and gamma knife), nuclear pharmacy, academic broad scope, irradiator, research and development, analytical, and portable gauge licenses. Types of licensing actions selected for evaluation included seven new licenses, 15 amendments to existing licenses, and two license

terminations. A list of the licensing casework evaluated with case-specific comments can be found in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, consistent, of high quality and properly addressed health and safety issues. The staff followed appropriate licensing guides during the review process to ensure that licensees submit information necessary to support their request. Complicated deficiencies were addressed in letters containing appropriate regulatory language. Telephone conversations addressed and documented simple deficiencies and then were noted in the license file. The use of license templates by the staff resulted in notable consistency between reviewers.

The Branch issues licenses for periods identical with the inspection frequency for licenses having Priorities 1-3, with renewals in their entirety every five years. Licenses with lower priorities are issued for a period of five years. Inspectors review the license for accuracy during each inspection. The Division Director related that this process enabled the Branch to be more knowledgeable concerning the licensee's operations, and helped to assure public health and safety.

All licensing actions receive peer review from other staff members before being reviewed by the Branch Director. This process serves as a learning tool for the junior staff members. The peer and supervisory reviews contributed to the notable consistency between reviewers and the high quality of licensing documents. All licenses evaluated were signed by the Division Director.

The team found that actions terminating licenses were well documented, and included the appropriate material survey records. The evaluation revealed that most license terminations were for licensees possessing only sealed sources. All files reviewed contained documentation of proper disposal or transfer. The Branch currently has one nuclear laundry facility that is being decommissioned and the decommissioning plan was similar to a plan used at a former facility licensed by NRC in Virginia. No potentially contaminated sites formerly licensed by NRC have been identified in Mississippi.

Based on the IMPEP evaluation criteria, the review team recommends that Mississippi's performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the Division's actions in responding to incidents, the review team examined the Division's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Mississippi in the NMED against those contained in the Division files, and evaluated the casework and supporting documentation for 14 material incidents. A list of the incident casework examined with case-specific comments is included in Appendix E. The team also reviewed the Branch's response to three allegations involving radioactive materials including one allegation referred by the NRC during the review period.

The review team discussed incident and allegation procedures, file documentation, the Branch's incident and allegation tracking system, NMED, and notification of incidents to the NRC Operations Center with the Branch Director and selected staff.

The team found that responsibility for initial response and follow-up actions to materials incidents and allegations rest solely with the Branch. The Branch Director and others as appropriate, evaluate incidents to determine the appropriate response. They evaluate all complex incidents, and those with potential for affecting public safety.

The Branch had 35 materials incidents during the review period, 28 of which were reportable under the NRC criteria. Fourteen incidents were selected for review. The incidents included: a fire; stolen and lost gauges; equipment failure; overexposures; damaged devices; loss of control; and misadministrations. The review team found that the Branch's response to incidents was complete and comprehensive. Initial responses were prompt and well coordinated and the level of effort was commensurate with the health and safety significance. The Branch dispatched inspectors for on-site investigations when appropriate, and took suitable enforcement action and follow-up action. Actions were coordinated with other agencies, as appropriate.

The team noted that the Branch had two individuals trained on submitting incident reports to NMED. The Branch has a current copy of the Handbook of Office of State and Tribal Programs (STP) Procedure SA-300, "Reporting Material Events." All incident reports were reported to the NMED contractor, and all significant incidents, except one damaged troxler gauge, were reported to the NRC Operations Center. This incident was discussed with the Branch Director and was an isolated occurrence during the period when the Branch was understaffed.

During the review period, the Division was referred one allegation by the NRC, and received two allegations directly. All allegations were reviewed by the team. The casework indicated that the Branch took prompt and appropriate action in response to the concerns raised and made every effort to protect the alleged's identity. All of the allegations reviewed were appropriately closed with written letters to the alleged, as appropriate. The team noted that allegations were treated and documented internally in the same manner as incidents. There were no performance issues identified from the review of the allegation files and documentation.

Based on the IMPEP evaluation criteria, the review team recommends that Mississippi's performance with respect to the indicator, Response to Incidents and Allegations, be found satisfactory.

4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State programs: (1) Legislation and Program Elements Required for Compatibility, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste Disposal Program, and (4) Uranium Recovery Program. The Mississippi Agreement State Program does not cover uranium recovery operations, so only the first three non-common performance indicators were applicable to this review.

4.1 Legislation and Program Elements Required for Compatibility

4.1.1 Legislation

In evaluating this indicator, the team reviewed the Division's response to the questionnaire and copies of legislation, and held discussions with the Division Director. The review team found that Mississippi has two laws that affect the Radiation Control Program. The Mississippi Radiation Protection Law of 1976 designates the Department as the radiation control agency for the State. This act gives the Department specific powers and duties among which are authorities to promulgate regulations, issue licenses, perform inspections, collect fees, and issue civil penalties. The second act, House Bill 712, that took effect July 1, 2000, increases the schedule of fees for radiological health licenses and permits. The review team noted that the fee legislation affecting the radiation control program was the only legislation passed since this indicator was found satisfactory during the previous review in 1997.

4.1.2 Program Elements Required for Compatibility

The Mississippi Regulations pertaining to radiation control apply to all ionizing radiation, whether emitted from radionuclides or devices. Mississippi requires a license for possession, and use, of all radioactive material including naturally occurring materials, such as radium. To the extent possible, the Mississippi regulations follow the Suggested State Regulations (SSRs) of the Conference of Radiation Control Program Directors, Inc.

The review team examined the procedures used in the Division's regulatory process and found that the public and other interested parties are offered an opportunity to comment on proposed regulations. The NRC is provided with drafts for comment.

After preparation of a package of draft regulations, the Division obtains approval from the Radiation Advisory Council and then the Board of Health. Draft regulations are mailed to registered interested parties, such as licensees and NRC. The Board of Health approves the final regulations. Meetings of the Radiation Advisory Council and the Board of Health are open to the public. Typically, rule promulgation requires 6 to 12 months due to scheduling of the Radiation Advisory Council and Board of Health meetings. There are no sunset laws in Mississippi and the regulations have no expiration date. The review team discussed the availability of draft regulations on a web site with the Division Director. The Division Director indicated placing draft regulations on the Department's web site is under discussion but delayed because of inadequate information technology support.

The team evaluated the Division's responses to the questionnaire, reviewed the status of regulations required to be adopted by the State under the Commission's adequacy and compatibility policy and verified the adoption of regulations with data obtained from the Office of State and Tribal Programs Regulation Assessment Tracking System.

During the onsite IMPEP review, the Division Director expected the State to adopt 18 regulations on July 11, 2001. At the time of the review, these 18 drafted regulations had been submitted to the NRC and under review. The following 13 of the 18 regulations listed below were overdue at the time of the review. The remaining five were not overdue.

- “Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use,” 10 CFR Parts 30, 32 and 35 amendments (59 FR 61767; 59 FR 65243; 60 FR 322) that became effective January 1, 1995. The review team was advised by the Division Director that this regulation was initially delayed in order to include all associated amendments to the medical rule with the proposed revision of 10 CFR Part 35 by the NRC.
- “Performance Requirements for Radiography Equipment,” 10 CFR Part 34 amendments (60 FR 28323) that became effective June 30, 1995.
- “Medical Administration of Radiation and Radioactive Materials,” 10 CFR Parts 20 and 35 amendments (60 FR 48623) that became effective October 20, 1995. The review team was advised by the Division Director that this regulation was initially delayed in order to include all associated amendments to the medical rule with the proposed revision of 10 CFR Part 35 by the NRC.
- “10 CFR Part 71: Compatibility with the International Atomic Energy Agency,” 10 CFR Part 71 amendments (60 FR 50248; 61 FR 28723) that became effective April 1, 1996.
- “Termination or Transfer of Licensed Activities: Recordkeeping Requirements,” 10 CFR Parts 20, 30, 40, 61, 70 amendments (61 FR 24669) that became effective June 16, 1996.
- “Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act,” 10 CFR Part 20 amendment (61 FR 65120) that became effective January 9, 1997.
- “Recognition of Agreement State licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State,” 10 CFR Part 150 amendment (62 FR 1662) that became effective February 27, 1997.
- “Criteria for the Release of Individuals Administered Radioactive Material,” 10 CFR Parts 20 and 35 amendments (62 FR 4120) that became effective May 29, 1997. The review team was advised by the Division Director that this regulation was initially delayed in order to include all associated amendments to the medical rule with the proposed revision of 10 CFR Part 35 by the NRC.
- “Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiography Operations,” 10 CFR Parts 30, 34, 71, and 150 amendments (63 FR 37059) that became effective June 27, 1997.
- “Radiological Criteria for License Termination,” 10 CFR Parts 20, 30, 40, and 70 amendments (62 FR 39058) that became effective August 20, 1997.
- “Low-Level Waste Shipment Manifest Information and Reporting,” 10 CFR Parts 20 and 61 amendments (60 FR 15649 and 60 FR 25983) that became effective March 1, 1998. Mississippi and other Agreement States were expected to have an equivalent rule effective on the same date.

- “Exempt Distribution of a Radioactive Drug Containing One Microcurie of Carbon-14-Urea,” 10 CFR Part 30 amendment (62 FR 63634) that became effective January 2, 1998.
- “Deliberate Misconduct by Unlicensed Persons,” 10 CFR Parts 30, 40, 61, 70, 71, and 150 (63 FR 1890; 63 FR 13733) that became effective on February 12, 1998.

Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally binding requirements no later than three years after they are effective. Note, the Division Director informed the review team on July 11, 2001 that the regulations had been adopted. The following five regulations were also included in the package currently under NRC review.

- “Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations: Clarifying Amendments and Corrections,” 10 CFR Part 34 amendment (63 FR 37059) that became effective July 9, 1998.
- “Minor Corrections, Clarifying Changes, and a Minor Policy Change,” 10 CFR Parts 20, 35, and 36 amendments (63 FR 39477; 63 FR 45393) that became effective October 26, 1998. The review team was advised by the Division Director that this regulation was initially delayed in order to include all associated amendments to the medical rule with the proposed revision of 10 CFR Part 35 by the NRC.
- “Transfer for Disposal and Manifests: Minor Technical Conforming Amendment,” 10 CFR Part 20 amendment (63 FR 50127) that became effective November 20, 1998.
- “Respiratory Protection and Controls to Restrict Internal Exposures,” 10 CFR Part 20 amendment (64 FR 54543; 64 FR 55524) that became effective February 2, 2000.
- “New Dosimetry Technology,” 10 CFR Parts 34, 36, and 39 amendments (65 FR 63749) that became effective January 8, 2001.

The Division will need to address the following regulation in upcoming rulemakings or by adopting alternate legally binding requirements:

- “Energy Compensation Sources for Well Logging and Other Regulatory Clarifications,” 10 CFR Part 39 amendment (65 FR 20337) that became effective May 17, 2000.

In evaluating the Division’s program, the team determined that there were several root causes which contributed to the delay in the promulgation of regulations in a timely fashion. These include the delay in the NRC promulgation of the revision to 10 CFR Part 35, as noted above, budget limitations, and high turnover in staff. The Division Director indicated that the Division plans a consolidated rulemaking package in order to lower the expense of promulgation of its regulations. The Division Director noted that each proposed rulemaking package is mailed to all interested parties, which includes 314 material licensees and 2500 x-ray registrants. The Division Director indicated that the estimated cost for promulgating the package of 18 amendments is \$11,000.00, which is 1 percent of the Division’s budget. He also indicated that the largest expense for promulgation of rules is due to the cost of mailing. The Division Director determined that the cost of rulemaking is more efficiently and effectively carried out in the form

of consolidated rulemaking packages containing several amendments. The team recognizes the benefits of this practice in managing the cost of rule development; however, this practice will need to be balanced against timeliness in incorporating new rule changes.

Another contributing factor to the delay of regulation adoption is the Division's practice to adopt SSRs. The SSRs have not been updated to include the recent amendments or revisions to the medical regulations. The Division has not been able to take advantage of the SSRs for the medical regulations to reduce staff efforts to develop compatible regulations. The review team recommends the Division not delay unnecessarily promulgation of regulations required for compatibility in anticipation of NRC issuing final regulations or issuance of final SSRs.

During the MRB meeting on August 16, 2001, the review team noted that the Division adopted the 18 amendments listed above per an e-mail dated July 11, 2001 from the Division Director. The review team's preliminary finding of satisfactory with recommendations for improvement was based on the criterion in Management Directive 5.6 that regulations be adopted within a three-year period. The review team noted that the Division management took appropriate action in a period of significant staff loss to manage workload including regulation adoption. With the adoption of the overdue regulations on July 11, 2001, the review team proposed and the MRB agreed that the satisfactory with recommendations for improvement rating was not appropriate for this indicator.

Based on the IMPEP evaluation criteria, the review team recommends that Mississippi's performance with respect to the indicator, Legislation and Program Elements Required for Compatibility, be found satisfactory.

4.2 Sealed Source and Device (SS&D) Evaluation Program

The team did not review the State's SS&D program even though Mississippi currently has responsibility for this area. The review team discussed with the Division Director whether the State has considered returning its authority for the SS&D Evaluation Program. The Division Director indicated that the State has not yet formulated a position on this issue, since it will require Governor approval. The Division did not perform any SS&D evaluations during the period of the review.

4.3 Low-Level Radioactive Waste (LLRW) Disposal Program

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

5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found Mississippi's performance to be satisfactory for all performance indicators. Accordingly, the review team recommended and the MRB concurred in finding the Mississippi Agreement State program to be adequate and compatible with NRC's program. Based on the results of the current IMPEP review, the next full review will be in approximately four years.

Below is a summary list of recommendations, as mentioned earlier in the report, for evaluation and implementation, as appropriate, by the Division.

RECOMMENDATIONS:

1. The review team recommends that the Division give priority to filling the vacant HP Senior position. (Section 3.3)
2. The review team recommends the Division not delay unnecessarily promulgation of regulations required for compatibility in anticipation of NRC issuing final regulations or issuance of final SSRs. (Section 4.1.2)

LIST OF APPENDICES AND ATTACHMENTS

Appendix A	IMPEP Review Team Members
Appendix B	Mississippi Organization Charts
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Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Attachment	July 9, 2001 Letter from Robert W. Goff Mississippi's Response to Draft IMPEP Report

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
Cardelia H. Maupin, STP	Team Leader Technical Staffing and Training
Barbara Hamrick, CA	Status of Materials Inspection Program Technical Quality of Inspections Inspector Accompaniments
Richard Woodruff, RII	Technical Quality of Licensing Actions Response to Incidents and Allegations
Stephen Salomon, STP	Legislation and Program Elements Required for Compatibility

APPENDIX B
MISSISSIPPI ORGANIZATION CHARTS
ML011730210

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1

Licensee: Quality Control and Inspection

Location: Vicksburg, MS

License Type: Industrial Radiographic (Field and Office)

Inspection Dates: 2/8/01 (Field), 2/13/01 (Office)

License No.: 909-01

Inspection Type: Initial

Priority: 1

Inspectors: JG, ML

File No.: 2

Licensee: PMSC Irby Steel

Location: Gulfport, MS

License Type: Industrial Radiographic - Permanent Facility

Inspection Dates: 10/9/97, 3/2/99, 7/10/00

License No.: 750-01

Inspection Type: Routine

Priority: 1

Inspectors: MP, ML

Comments:

- a) The reports for 10/9/97 and 11/20/97 inspections were issued on 12/4/97.
- b) Inspection 3/2/99 was 133% overdue when performed.
- c) Inspection 7/10/00 was 33% overdue when performed.

File No.: 3

Licensee: Anderson Cancer Center

Location: Meridian, MS

License Type: Medical HDRA

Inspection Dates: 8/20/98, 9/9/99, 11/9/00

License No.: 740-01

Inspection Type: Routine

Priority: 1

Inspectors: BS, RN

File No.: 4

Licensee: Syncor International Corporation

Location: Tupelo, MS

License Type: Radiopharmacy

Inspection Dates: 3/19/97, 8/12/99

License No.: 493-04

Inspection Type: Initial, Routine

Priority: 1

Inspectors: MP, BS, RN

Comments:

- a) Initial inspection was performed 7.5 months after license was issued.
- b) Inspection 8/12/99 was 142% overdue when performed.

File No.: 5

Licensee: University of Mississippi Medical Center

Location: Jackson, MS

License Type: Broad Scope Medical

Inspection Dates: 7/19/99, 1/22-29/01

License No.: MBL-01

Inspection Type: Routine

Priority: 2

Inspectors: RN, JG, KP

File No.: 6

Licensee: Novartis Crop Protection
Location: Greenville, MS
License Type: Agricultural Research
Inspection Date: 4/19/01

License No.: 291-01
Inspection Type: Termination
Priority: N/A
Inspector: KP

File No.: 7

Licensee: Garden Park Medical Center
Location: Gulfport, MS
License Type: Medical Hospital
Inspection Date: 12/6/00

License No.: 493-04
Inspection Type: Routine
Priority: 3
Inspector: KP

File No.: 8

Licensee: Pandle, Inc.
Location: Pascagoula, MS
License Type: Portable Gauge
Inspection Date: 4/12/01

License No.: 833-01
Inspection Type: Routine
Priority: 5
Inspector: JG

File No.: 9

Licensee: Delta Regional Medical Center
Location: Greenville, MS
License Type: Medical Hospital
Inspection Date: 12/19/00

License No.: 010-01
Inspection Type: Routine
Priority: 3
Inspector: RN

File No.: 10

Licensee: Maxxim Medical
Location: Columbus, MS
License Type: Pool Irradiator
Inspection Dates: 11/17/99, 12/11/00

License No.: 661-01
Inspection Type: Routine
Priority: 1
Inspector: BS

Comment:

a) Inspection 11/17/99 was 58% overdue when performed.

IN ADDITION, THE FOLLOWING INSPECTION ACCOMPANIMENTS WERE PERFORMED AS PART OF THE ON-SITE IMPEP REVIEW.

File No.: 1

Licensee: Welding Testing X-Ray, Inc.
Location: Fernwood, MS
License Type: Field Radiographic
Inspection Date: 5/14/01

License No.: 666-01
Inspection Type: Routine
Priority: 1
Inspectors: JG

File No.: 2

Licensee: Jackson Central Pharmacy
Location: Jackson, MS
License Type: Radiopharmacy
Inspection Date: 5/15/01

License No.: 853-01
Inspection Type: Routine
Priority: 1
Inspector: RN

File No.: 3
Licensee: Meridian Medical Associates PA
Location: Meridian, MS
License Type: Diagnostic Nuclear Medicine Clinic
Inspection Date: 5/16/01

License No.: 864-01
Inspection Type: Routine
Priority: 3
Inspector: KP

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1

Licensee: Central Pharmacy Services, Inc. dba Nu-Scan

Location: Philadelphia, MS

License Type: Mobile Nuclear Pharmacy

Date Issued: 2/4/97

License No.: MS-849-01

Amendment No.: 0

Type of Action: New

License Reviewer: MP

File No.: 2

Licensee: Cox Nuclear Pharmacy

Location: Biloxi, MS

License Type: Nuclear Pharmacy

Date Issued: 2/14/01

License No.: MS-794-01

Amendment No.:15 (entirety)

Type of Action: Amendment

License Reviewer: BN

File No.: 3

Licensee: Syncor International Corporation

Location: Gulfport, MS

License Type: Nuclear Pharmacy

Date Issued: 6/14/99

License No.: MS-493-03

Amendment No.: 19

Type of Action: Termination

License Reviewer: BS

File No.: 4

Licensee: E.I. du Pont de Nemours & Co., Inc.

Location: Greenville, MS

License Type: Research

Date Issued: 1/25/1999

License No.: MS-302-01

Amendment No.: 19

Type of Action: Termination

License Reviewer: BS

File No.: 5

Licensee: Perf-O-Log, Inc.

Location: Laurel, MS

License Type: Wireline

Date Issued: 5/01/01

License No.: MS-664-01

Amendment No.: 12 (entirety)

Type of Action: Amendment

License Reviewer: BS

File No.: 6

Licensee: Singing River Hospital

Location: Pascagoula, MS

License Type: Institutional Medical

Date Issued: 11/10/99

License No.: MS-143-01

Amendment No.: 66 (entirety)

Type of Action: Amendment

License Reviewer: BS

File No.: 7

Licensee: Forrest General Hospital

Location: Hattiesburg, MS

License Type: Medial Therapy

Date Issued: 5/03/01

License No.: MS-187-01

Amendment No.: 95

Type of Action: Amendment

License Reviewer: RN

File No.: 8

Licensee: Forrest General Hospital
Location: Hattiesburg, MS
License Type: Medical Therapy
Date Issued: 4/30/01

License No.:MS-187-02
Amendment No.: 44
Type of Action: Amendment
License Reviewer: RN

File No.: 9

Licensee: Maxxim Medical
Location: Columbus, MS
License Type: Pool irradiator
Date Issued: 7/27/99

License No.:MS-661-01
Amendment No.: 14 (entirety)
Type of Action: Amendment
License Reviewer: BS

File No.: 10

Licensee: Grenada Lake Medical Center
Location: Grenada, MS
License Type: Medical Institutional
Date Issued: 3/29/01

License No.:MS-410-01
Amendment No.: 27
Type of Action: Amendment
License Reviewer: BS

File No.: 11

Licensee: Garden Park Medical Center
Location: Gulfport, MS
License Type: Institutional Medical
Date Issued: 6/30/00

License No.: MS-540-01
Amendment No.: 15 (entirety)
Type of Action: Amendment
License Reviewer: BN

File No.: 12

Licensee: Longview Inspection, Inc.
Location: Pascagoula, MS
License Type: Industrial Radiography
Date Issued: 12/22/99

License No.: MS-784-01
Amendment No.: 15 (entirety)
Type of Action: Amendment
License Reviewer: BS

File No.: 13

Licensee: Southern Inspection Services
Location: Pascagoula, MS
License Type: Industrial Radiographer
Date Issued: 5/06/98

License No.: MS-747-01
Amendment No.: 21 (entirety)
Type of Action: Amendment
License Reviewer: BS

File No.: 14

Licensee: Williams Paving Company, L.L.C.
Location: Gulfport, MS
License Type: Portable gauge
Date Issued: 4/16/99

License No.: MS-751-01
Amendment No.: 3 (entirety)
Type of Action: Amendment
License Reviewer: BS

File No.: 15

Licensee: Unitech Services Group
Location: Vicksburg, MS
License Type: Nuclear Laundry
Date Issued: 1/12/01

License No.: MS-495-01
Amendment No.: 23
Type of Action: Amendment
License Reviewer: BS

File No.: 16

Licensee: Coast Cardiovascular Consultants PLLC
Location: Gulfport, MS
License Type: Cardiology
Date Issued: 5/10/00

License No.: MS-905-01
Amendment No.: 0
Type of Action: New
License Reviewer: KP

File No.: 17

Licensee: Goodman Diagnostics
Location: Southaven, MS
License Type: Cardiology
Date Issued: 2/9/01

License No.: MS-922-01
Amendment No.: 0
Type of Action: New
License Reviewer: KP

File No.: 18

Licensee: Mid Continent Laboratories, Inc
Location: Greenwood, MS
License Type: Portable gauge
Date Issued: 9/7/00

License No.: MS-913-01
Amendment No.: 0
Type of Action: New
License Reviewer: RG

File No.: 19

Licensee: Tanner Construction Company, Inc.
Location: Ellisville, MS
License Type: Portable gauge
Date Issued: 7/1/00

License No.: MS-908-01
Amendment No.: 0
Type of Action: New
License Reviewer: RG

File No.: 20

Licensee: Land Shaper, Inc.
Location: Gulfport, MS
License Type: Fixed gauge
Date Issued: 12/19/00

License No.: MS-921-01
Amendment No.: 0
Type of Action: New
License Reviewers: RG

File No.: 21

Licensee: University of Mississippi Medical Center
Location: Jackson, MS
License Type: Broad Medical
Date Issued: 6/3/97

License No.: MS-MBL-01
Amendment No.: 21 (entirety)
Type of Action: Amendment
License Reviewers: BS

File No.: 22

Licensee: Mississippi State University
Location: Jackson, MS
License Type: Broad Academic
Date Issued: 4/26/00

License No.: MS-EBL-02
Amendment No.: 48 (entirety)
Type of Action: Amendment
License Reviewers: RN

File No.: 23
Licensee: University of Southern Mississippi
Location: Hattiesburg, MS
License Type: Broad Academic
Date Issued: 9/8/99

License No.: EBL-03
Amendment No.: 21 (entirety)
Type of Action: Amendment
License Reviewers: RN

File No.: 24
Licensee: Central Mississippi Medical Center
Location: Jackson, MS
License Type: Gamma Knife
Date Issued: 3/13/01

License No.: MS-722-04
Amendment No.: 0
Type of Action: New
License Reviewers: BS

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1

Licensee: Tougaloo College
Site of Incident: Tougaloo, MS
Date of Incident: 12/21/97
Investigation Date: 12/22/97

License No.: MS-SNM-12
Incident Log No.: MS-97-010
Type of Incident: Fire
Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee reported an underground gas explosion that destroyed part of a science building in which a neutron howitzer was stored. The howitzer contained 5.77 curies of plutonium and was stored in a leucite water tank. The Division responded to the incident and determined that there was no damage to the howitzer. Arrangements were made through NRC for the radioactive material to be picked up for disposal by DOE.

File No.: 2

Licensee: Burns Cooley Dennis, Inc.
Site of Incident: Jackson, MS
Date of Incident: 12/22/98
Investigation Date: 12/22/98

License No.: MS-619-01
Incident Log No.: MS-98-010
Type of Incident: Lost Gauge
Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee reported the loss of a Troxler moisture density gauge (containing 8 millicuries of cesium-137 and 40 millicuries of americium-241) that fell from a pickup truck (NMED event number 990003). The licensee and the Division conducted searches along the path taken by the truck. A private citizen witnessed the incident and later turned the gauge over to the police authorities. The gauge was returned to the licensee on 12/28/98. The radioactive sources were in a shielded position. The Division conducted an investigation and took enforcement action. The Division issued its report on 12/28/98.

File No.: 3

Licensee: Perf-O-Log Services, Inc.
Site of Incident: Seminary, MS
Date of Incident: 12/17/98
Investigation Date: 1/04/99

License No.: MS-664-01
Incident Log No.: MS-98-009
Type of Incident: Loss of Source
Type of Investigation: Licensee Report

Summary of Incident and Final Disposition: The licensee reported the loss of a 23 millicurie cobalt-60 source down hole at a well logging site (NMED event number 990042). The licensee determined that the source could not be recovered. The Division required the licensee to evaluate the status of the source and install a plaque at the well head in accordance with State regulations.

Comment:

- a) At the time of the onsite review, there was no documentation on file verifying that the plaque had been installed. In the July 9, 2001 response to the Draft IMPEP Report, the Division indicated that the plaque was verified on May 30, 2001.

File No.: 4

Licensee: Liberty Technical Services

Site of Incident: Pascagoula, MS

Date of Incident: 8/6/97

Investigation Date: 8/18/97

License No.: MS-719-01

Incident Log No.: MS-97-007

Type of Incident: Potential Overexposure

Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee reported that an assistant radiographer may have been overexposed while using an Amersham 660-A radiographic camera (containing 99.3 curies of iridium-192) at a temporary job site (NMED event number 010208). The radiographers were operating out of a Mobile, AL office. The incident occurred when the assistant radiographer was unable to crank out the source. After adjusting the angle of the guide tube, the assistant heard his alarming rate meter and noticed that the source was exposed. The Division conducted an investigation and determined that the incident was caused when a bend in the guide tube prevented the return of the source to the shielded position, a lack of supervision of the assistant by the radiographer, and the failure to perform surveys. The assistant radiographer received an estimated 2 rem to the right hand and 810 millirem TEDE. The results of the incident investigation was provided to the Alabama Bureau of Radiological Health.

File No.: 5

Licensee: Lehman-Roberts Company

Site of Incident: Shelby, MS

Date of Incident: 12/3/98

Investigation Date: 12/3/98

License No. MS-606-01

Incident Log No.: MS-98-008

Type of Incident: Damaged Gauge

Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee notified the Division that a Troxler 3440 density gauge, containing 8 millicuries of cesium-137 and 40 millicuries of americium-241, had been run over by a roller. The Division responded to the incident, conducted an assessment of the damage, and packaged the gauge for return to the manufacturer (NMED #990041).

Comment:

- a) The incident was not reported to the NRC Operations Center in accordance with the SA-300 guidance on reporting incidents.

File No.: 6

Licensee: Southern Inspection Services

Site of Incident: Gulfport, MS

Date of Incident: 10/2/98

Investigation Date: 11/19/98

License No.: MS-747-01

Incident Log No.: MS-98-007

Type of Incident: Overexposure

Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee notified the Division that a radiographer had received a dosimetry report exposure of 5.48 rems during the period of 9/25/98 to 10/24/98 (NMED event report 990037). The RSO reported that the radiographer had been helping another crew on 10/2/98 and was not wearing his alarm ratemeter. The device being used was a Amersham 660 camera with 93 curies of iridium-192. The Division conducted an investigation, took enforcement actions, and the radiographer was removed from working with radiation during the remainder of the year.

File No.: 7

Licensee: Mississippi Tank Company
Site of Incident: Hattiesburg, MS
Date of Incident: 6/6/98
Investigation Date: 10/6/98

License No.: MS-064-01
Incident Log No.: MS-98-005
Type of Incident: Equipment Failure
Type of Investigation: On-Site

Summary of Incident and Final Disposition: An Amersham 660-B radiographic camera, containing 45 curies of iridium-192, would not lock after the source was cranked out (NMED event number 981086). The camera was sent to the manufacturer for repair of the locking mechanism, and the manufacturer determined that the incident was caused by dirt and grease in the lock plunger. The incident was discovered during a routine inspection by the Division and enforcement actions were taken.

File No.: 8

Licensee: Prichard Engineering Co.
Site of Incident: Starkville, MS
Date of Incident: 10/19/99
Investigation Date: 10/28/99

License No.: MS-865-01
Incident Log No.: MS-99-004
Type of Incident: Lost Gauge
Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee notified the Division that a Campbell Pacific moisture density gauge had fallen out of a pick-up truck (NMED event number 990759). The gauge contained 10 millicuries of cesium-137 and 50 millicuries of americium-241. A press release was issued and a Sears repairman found the gauge and turned it over to authorities. The Division conducted an investigation of the incident and determined that there was no damage to the source inside the gauge. Enforcement actions were taken.

File No.: 9

Licensee: U.S. Cattle Corporation
Site of Incident: Winona, MS
Date of Incident: 3/20/00
Investigation Date: 11/28/00

License No.: GL-211
Incident Log No.: MS-00-007
Type of Incident: Lost gauge
Type of Investigation: On-Site

Summary of Incident and Final Disposition: The general licensee notified the Division that an Omart gauge containing 25 millicuries of strontium-90 was no longer in their possession. The gauge and all assets had been sold to another company in 1999. All efforts to locate the gauge were unsuccessful and the Division conducted a survey at a scrap metal dealer's facility. The gauge has not been found and the incident is still open (NMED event number 000906).

File No.: 10

Licensee: Singing River Hospital
Site of Incident: Pascagoula, MS
Date of Incident: 9/18/00
Investigation Date: Unknown

License No.: MS-143-01
Incident Log No.: MS-00-005
Type of Incident: Misadministration
Type of Investigation: Telephone

Summary of Incident and Final Disposition: The licensee notified the Division that a diagnostic medical misadministration had occurred when a 20.3 millicurie dose of technetium-99m, cardiolite was mislabeled and injected into a patient (NMED event number 010252). The injection was labeled as technetium-99m, MDP. The dose to the patient was estimated to be 338 millirads, total body, and 3.65 rads to the upper large intestine wall. The Division determined that the incident was not reportable as a misadministration. However, the Division discussed the incident with the Mobile, AL pharmacy that prepared the dose, and with the Alabama Bureau of Radiological Health.

Comment:

- a) The telephone discussions with the radiopharmacy in Mobile, AL and with the Alabama Bureau of Radiological Health were not documented in the incident file along with the specific dates and substance of the discussions.

File No.: 11

Licensee: Jackson Central Pharmacy
Site of Incident: Jackson, MS
Date of Incident: 6/27/00
Investigation Date: 6/27/00

License No.: MS-853-01
Incident Log No.: MS-00-004
Type of Incident: Loss of Control
Type of Investigation: On-Site

Summary of Incident and Final Disposition: The local land fill authority notified the Division that a load of waste set off their radiation monitors (NMED event number 010251). The Division responded to the incident, conducted surveys, isolated the radioactive material, and determined that the material came from the licensee's facility. The materials (including 1.4 millicuries of iodine-131) were turned over to the licensee and enforcement actions were taken for inadequate surveys at the licensee's facility.

File No.: 12

Licensee: Baker Atlas

Site of Incident: Rankin County, MS

Date of Incident: 4/19/01

Investigation Date: 4/19/01

License No.: MS-385-01

Incident Log No.: MS-01-004

Type of Incident: Lost Source

Type of Investigation: Telephone

Summary of Incident and Final Disposition: The licensee notified the Division of their intentions to abandon three radioactive sources down hole after several attempts to recover the sources were unsuccessful. The sources were 2 curies of cesium-137, 18 curies of americium-241 and 800 millicuries of cesium-137. Red dye was injected into the well at 16,834 feet, the hole was plugged, and a plaque was installed at the well head. The Division documented the placement of the plaque with photographs from the licensee (NMED #010646).

File No.: 13

Licensee: Bhate Engineering

Site of Incident: Southhaven, MS

Date of Incident: 3/27/01

Investigation Date: 3/27/01

License No.: AL-655

Incident Log No.: MS-01-003

Type of Incident: Gauge Recovery

Type of Investigation: On-Site

Summary of Incident and Final Disposition: The Mississippi Emergency Management Agency notified the Division that a radioactive device had been found along a dirt road. The Division responded to the incident and identified the device as a Troxler portable gauge containing approximately 8 millicuries of cesium-137 and 40 millicuries of americium-241. The gauge was surveyed and found to be undamaged and locked. The device was traced by serial number to the Alabama licensee, who had reported the device stolen on 2/4/94 from a temporary job-site in Tennessee. The Division held the gauge until the licensee could take possession. The States of Alabama and Tennessee were notified of the recovery and the actions taken. Alabama reported the initial incident as NMED number 941465.

File No.:14

Licensee: GE Inspection Services

Site of Incident: Pascagoula, MS

Date of Incident: 1/1-31/01

Investigation Date: 3/27/01

License No.: MS-863-01

Incident Log No.: MS-01-002

Type of Incident: Overexposure

Type of Investigation: Report

Summary of Incident and Final Disposition: The licensee notified the Division that a radiographer had received a dosimeter report of 14.642 rems for the month of January, 2001. The radiographer crew from the Mobile, Alabama office was working at the Mississippi facility during the time period. The licensee report did not identify any cause for the reading and no incidents had taken place at the Mississippi facility. The corporate RSO conducted the investigation and concluded that the exposure was not received by the radiographer, and a dose of 212 millirems were assigned to the radiographer based upon dosimeter records. The Division notified the State of Alabama and the NMED event number is 010188.

ATTACHMENT

July 9, 2001 Letter from Robert W. Goff
Mississippi's Response to Draft IMPEP Report
ML011940004