

July 1, 2002

Donald E. Williamson, M.D.
State Health Officer
Alabama Department of Public Health
The RSA Tower
P. O. Box 303017
Montgomery, AL 36130-3017

Dear Dr. Williamson:

On June 24, 2002, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Alabama Agreement State Program. The MRB found the Alabama program adequate to protect public health and safety and compatible with the Nuclear Regulatory Commission's program. No recommendations were made by the review team.

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. We appreciate your continued support for the Radiation Control Program and the excellence in program administration demonstrated by your staff as is reflected in the team's findings. 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: Kirksey E. Whatley, Director
Office of Radiation Control

William Sinclair, UT
OAS Liaison to MRB

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
REVIEW OF ALABAMA AGREEMENT STATE PROGRAM

APRIL 8-12, 2002

FINAL REPORT

U.S. Nuclear Regulatory Commission

1.0 INTRODUCTION

This report presents the results of the review of the Alabama Agreement State program. The review was conducted during the period April 8-12, 2002, by a review team consisting of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Maine. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of a 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 of April 24, 1998 to April 12, 2002, were discussed with Alabama management on April 12, 2002.

A draft of this report was issued to Alabama for factual comment on May 14, 2002. The State responded by electronic mail dated May 21, 2002. The Management Review Board (MRB) met on June 24, 2002 to consider the proposed final report. The MRB found the Alabama radiation control program was adequate to protect public health and safety and compatible with NRC's program.

The Alabama Agreement State program is administered by the Department of Public Health (the Department), Office of Radiation Control (the Office). The Director of the Office reports to the State Health Officer, who serves as the Director of the Department. The State Board of Health is the designated radiation control agency (See Section 3.3). Organization charts for the Department and the Office are included in Appendix B. At the time of the review, the Alabama Agreement State program regulated 369 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 Alabama.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Office on December 5, 2001. The Office provided a response to the questionnaire on March 7, 2002. During the review, the review team identified several areas in the questionnaire response that needed to be clarified or modified. The State provided an amended questionnaire response on April 15, 2002. A copy of the final questionnaire response can be found on NRC's Agencywide Document Access and Management System using the Accession Number ML021300269.

The review team's general approach for conduct of this review consisted of: (1) examination of Alabama's responses to the questionnaire; (2) review of applicable Alabama statutes and regulations; (3) analysis of quantitative information from the radiation control program licensing and inspection data base; (4) technical review of selected licensing and inspection actions; (5) field accompaniments of two Office inspectors; and (6) interviews with staff and management to answer questions or clarify issues. The review team evaluated the information that it gathered against the IMPEP performance criteria for each common and applicable non-common

performance indicator and made a preliminary assessment of the Alabama Agreement State program's performance.

Section 2 below discusses the State's actions in response to recommendations made following the previous IMPEP 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.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on April 23, 1998, one recommendation was made and transmitted to Dr. Donald E. Williamson, State Health Officer, the Department of Public Health on July 21, 1998. The team's review of the current status of the recommendation is as follows:

1. The review team recommends that Alabama adopt a procedure providing that follow-up and routine event reports to Nuclear Material Event Database (NMED) be provided within 30 days of receipt of the report from the licensee. (Section 3.5)

Current Status: During the review, the review team found that information involving follow-up and routine events was reported to NMED within 30 days of receipt of a report. An event reporting procedure has been adopted and all the reportable events have been properly reported to NRC in a timely manner. This recommendation is closed.

During the 1998 review, two suggestions were made for the Office to consider. The review team determined that the Office considered the suggestions and took appropriate actions.

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 are: (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 review team focused on four factors in reviewing the status of the materials inspection program: inspection frequency, overdue inspections, initial inspections of new licensees, and timely dispatch of inspection findings to the licensees. The review team's evaluation is based on the Office's questionnaire responses relative to this indicator, data gathered from reports generated from the licensee database, examination of completed licensing and inspection casework, and interviews with the management and staff.

A Department memorandum dated April 16, 1998, entitled "License and Registration Inspections Priority" established that inspections should be conducted in accordance with the priority schedule in NRC Inspection Manual Chapter (IMC) 2800, with certain modifications. For example, all NRC

Priority 6 and 7 programs are considered Priority 5 by the Office. The April 16, 1998 memorandum further established a policy and procedure for extending inspection intervals on the basis of good licensee performance. The memorandum also established a policy and procedure for reducing inspection intervals, using a point system based on violation severity and frequency.

The inspection interval extension/reduction policy differs from NRC's in two aspects. In Alabama, the interval extension policy "may be applied" as compared to NRC's "shall be applied." Also, the decision to grant an extension is made at the time the licensee's next inspection is due, versus the IMC 2800 provision for the decision to be made at the time the current inspection is completed. The review team concluded that this approach is acceptable. The licensee database contains sufficient information for proper management of the inspection program. The Radioactive Materials Compliance Branch of the Office conducts an average of 124 inspections per year. There were no overdue inspections conducted during the review period.

The review team noted that the Office is performing inspections of materials licensees on an unannounced basis, except for initial inspections. Initial inspections of new licensees are scheduled for five months after the date the license is issued. If material is not acquired, the licensee is contacted again in five months. An inspection is performed before the end of the first year of license issuance independent of whether materials have been acquired or not. There were twenty-eight initial inspections performed from August 23, 2000 to February 13, 2002, all within the scheduled intervals for new licensees.

Alabama regulations currently allow only thirty days of possession of materials in State under reciprocity without payment of a fee. After thirty days, an out-of-State Alabama license, and fee payment, must be obtained. Holders of these out-of-State licenses are still required to give a notification in advance of any planned use of radioactive material at a temporary job site in Alabama in accordance with license conditions.

During the review, the review team noted that the actual inspections of Priority 1 and Priority 3 licensees granted reciprocity fell short of the goals indicated in IMC 1220. The review team would like to further note that although the actual inspections fell short some inspections were attempted. This was confirmed by reviewing the two reciprocity files and looking at the attempted inspection notes. Inspection of Priority 2 licensees met IMC 1220 goals.

The Office has only a thirty day period to make an inspection, unlike NRC and other Agreement States that have 180 day reciprocity periods. Office management indicated that the shorter reciprocity period and activities in remote locations combined with the costs of travel make conducting reciprocity inspections very difficult. The review team confirmed that many of the reciprocity licensees entered the State for one to two days throughout the year for jobs lasting only a few hours each trip. The Office identified the difficulty conducting reciprocity inspections in a 1998 self-audit. Nevertheless, Office management is committed to conducting reciprocity inspections whenever possible and will continue to do so. The review team discussed with the Office management and staff on how to increase the percentages of reciprocity inspections. The Office management indicated that increasing the number of reciprocity inspections remains a goal of the Office. The review team concluded that Office performance with respect to reciprocity inspections is acceptable.

Twenty-five inspection files were reviewed for report timeliness. All inspection reports are signed by the Director of the Compliance Branch. For the reports examined by the review team, all inspection reports were signed and transmitted within thirty days.

Based on the IMPEP evaluation criteria, the review team recommends that Alabama's performance with respect to the indicator, Status of 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 25 materials inspections conducted during the review period. The casework reviewed included inspections by four materials license inspectors, and covered inspections of various types including: industrial radiography, portable gauge, fixed gauge, academic broad scope, nuclear pharmacy, medical private practice, research and development, nuclear laundry, gauge services, and medical institution. Appendix C lists the inspection casework files reviewed for completeness and adequacy with case-specific comments.

Based on the casework file reviews, the review team found that routine inspections covered all aspects of a licensee's radiation protection program. Inspection reports were thorough, complete, consistent, and of high quality, with sufficient documentation to ensure acceptable performance with respect to health and safety by the licensee. The documentation adequately supported the cited violations, recommendations made to licensees, unresolved safety issues, and discussions held with the licensee during exit meetings. Team inspections were performed when appropriate and for training purposes.

During the review period, the Director of the Compliance Branch accompanied all individuals who performed materials inspections. The accompaniment reports contained sufficient details to document the areas covered. The accompanied inspector is provided a copy of the accompaniment report in his personnel file and receives an oral report of his performance. The review team noted that one inspector had retired since the last review.

The review team accompanied two materials inspectors during the period of February 27 - 28, 2002. One inspector was accompanied on inspections of a medical licensee with a gamma knife and an industrial radiography licensee. The second inspector was accompanied on inspections of a medical licensee and an industrial radiography licensee. The facilities inspected are identified in Appendix C. During the accompaniments, the inspectors demonstrated appropriate performance based inspection techniques and knowledge of the regulations. Both inspectors were well prepared and thorough in their reviews of the licensees' radiation safety programs. The review team noted that all technical staff members are equipped with a combination cell phone-two way radio for communication. Inspectors can contact the office immediately if there is a problem in the field. The inspectors can also be reached anywhere in the State of Alabama if the need arises. Overall, the technical performance of the inspectors was excellent, and their inspections were adequate to assess radiological health and safety at the licensed facilities.

The Office maintains a sufficient number and variety of survey instruments to perform radiological surveys of materials licensees. The review team examined the State's instrumentation and

observed that the survey instruments were calibrated and operable. Inspectors obtain calibrated instruments from the stock for each inspection. The Office performs its own calibration for survey meters at six-month intervals, with a source that is National Institute of Standards and Technology traceable.

The Office receives support from the Alabama Department of Environmental Management's radiation measurements laboratory, which performs sample counting and assay services. Discussions with Office staff established that the support is timely and dependable. It was noted that the U.S. Environmental Protection Agency's radiation measurements laboratory is located close to the Alabama Department of Environmental Management's laboratory, and is available for backup.

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

3.3 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Office'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 Office's questionnaire responses relative to this indicator, interviewed Office management and staff, reviewed job descriptions and training records, and considered any possible workload backlogs.

Office staffing was relatively stable over the review period. There were five new hires, and only two staff members departed. One materials inspector retired in January 2000. An X-Ray inspector was terminated in October 2001.

Due to a historic low rate of turnover, the staff consists of experienced personnel. The minimum educational requirement for a new hire is a bachelor's degree. All current staff exceed the qualifications. The Office consists of four branches with 18 technical positions, including branch directors. As noted in Appendix B, the branches are the Radioactive Materials Compliance Branch, the Radioactive Materials Licensing Branch, the Emergency Planning & Environmental Monitoring Branch, and the X-Ray Compliance Branch. Currently, the Office has one vacant position in the X-Ray Compliance Branch.

In addition to the five technical staff members in the Radioactive Materials Licensing and Compliance Branches, the Office Director spends about 27% of his time in radioactive materials licensing and inspection activities. The review team noted that the Office has experienced stable funding during the review period due to the Alabama law that establishes fees at 75% of the fees charged by NRC to materials licenses. These fees also fund the X-Ray Compliance Branch and the environmental monitoring and emergency response activities.

Training and qualification requirements for licensing and inspection staff are established in a Department memorandum dated October 20, 1997. The memorandum sets forth essentially the same training and qualification recommendations developed by the NRC - Organization of Agreement States Joint Working Group. A lead inspector is required to obtain specialized training appropriate for the type of licensee being inspected. Inspector requirements include NRC, or

equivalent, training courses when available. Inspectors are also required to be accompanied by a senior staff member on an inspection prior to authorizing the inspector to perform an independent inspection. Prior experience in inspecting in a specialized area is required to be a license reviewer or writer.

All technical staff members have taken the NRC courses deemed appropriate for their tasks. In addition, the review team noted that new licensing and inspection staff members usually attend three to four NRC training courses, including the five week health physics course, in their first two years with the Office. The training records demonstrate that Office management is committed to a high degree of training for the staff. Office management indicated that upper level management has been very supportive of training opportunities. The review team concluded that the Office has a well balanced staff, and a sufficient number of trained personnel to carry out regulatory duties.

The review team noted the apparent benefits to the Office from staff participation in the nationwide materials regulatory program outside their regular work. The Director of the Licensing Branch has served on committees and working groups including the joint working group on 10 CFR Part 35. The Director of the Compliance Branch has participated on two IMPEP review teams. Office management and other staff members have participated in activities of the Conference of Radiation Control Program Directors (CRCPD). In particular, it was noted that one inspection staff member served as Chair of the CRCPD Suggested State Regulations Committee, Part E, on Industrial Radiography. The review team noted that the knowledge and experience gained from these activities have been reflected back to the Office.

It was noted that three X-Ray inspectors have also completed the five week health physics course and have been accompanying materials inspectors on a monthly rotation basis since February of 2002. Office management indicated that these three inspectors can be transferred to the radioactive materials program if the need arises in the future. The review team noted that the Office currently has not only sufficient and well trained technical staff but also has a succession staffing plan that has factored in the potential future need.

The Medical Association of the State of Alabama, as constituted under the laws, is the State Board of Health. The State Committee of Public Health is composed of 12 members of the board of censors of the Medical Association of the State of Alabama and the chairman of four councils. The medical doctor members of the committee are selected by the State Board of Health, one from each of the United States congressional districts and the remainder from the State at large. When the State Board of Health is not in session, the State Committee of Public Health acts for the State Board of Health. Duties of the State Committee of Public Health include the adoption and promulgation of rules and regulations. Meetings of the State Committee of Public Health are held monthly.

The State Committee of Public Health elects an executive officer who is a physician licensed in Alabama to be known as the State Health Officer. The State Health Officer is designated as the Director of the Department. The Department carries out the day-to-day responsibility for the State Board of Health. As indicated in Chapter 25 of Title 36, Alabama Code of Ethics for Public Officials, Employees, etc., unless expressly provided otherwise by law, no person shall serve as a member or employee of a State, county, or municipal regulatory board or commission or other body that regulates any business with which the person is associated. In addition, the Code also

prohibits public officials or public employees to use his or her official position or office from obtaining personal gain.

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

3.4 Technical Quality of Licensing Actions

The review team interviewed license reviewers, evaluated the licensing process, and examined licensing casework for 22 specific licenses. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequate facilities and equipment, adherence to good health physics practices, financial assurance, operating and emergency procedures, appropriateness of the license conditions, and overall technical quality. The casework files were also reviewed for timeliness, use of appropriate deficiency letters and cover letters, reference to appropriate regulations, product certifications, supporting documentation, consideration of enforcement history, pre-licensing visits, supervisory review as indicated, and proper signatures. 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 which were completed during the review period. The cross-section sampling focused on the State's new licenses, amendments, renewals, and licenses terminated during the review period. The sampling included the following types: academic, broad medical, research and development, special nuclear material, a nuclear laundry, industrial radiography, portable gauges, institutional nuclear medicine, private clinics, mobile nuclear medicine, radioisotope and sealed source radiotherapy; and nuclear pharmacies. Licensing actions reviewed included nine new, one renewal, nine amendments and three termination files. A listing of the casework licenses evaluated with case specific comments can be found in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, consistent, and of acceptable quality with health and safety issues properly addressed. License tie-down conditions were stated clearly, backed by information contained in the file, and inspectable. The licensee's compliance history was taken into account when reviewing renewal applications and amendments. The exemptions noted in the questionnaire responses were determined to be appropriate and well documented by license conditions.

Licenses are reviewed by one license reviewer, and the Director of the Licensing Branch. The Director of the Licensing Branch performs a technical review on all licensing actions, and the Office Director performs a supervisory review before each licensing action is issued. All licenses are signed by the Office Director and the State Health Officer. The State issues licenses for a five year period under a timely renewal system, utilizes NRC licensing guides and policies as appropriate, uses standard licensing conditions, and issues a complete license for each licensing action.

A review of the termination actions taken over the review period showed that all of the terminations were for licensees possessing only sealed sources and/or for uses of radiopharmaceuticals with short half lives. The review team found that terminated licensing

actions were well documented, showing appropriate transfer records or appropriate disposal methods and records, confirmatory surveys, and survey records.

In discussions with the Office management, the review team noted that there were no major decommissioning efforts underway with regard to Agreement material in Alabama. The Office is also participating in the CRCPD program for certifying industrial radiographers.

Based on the IMPEP evaluation criteria, the review team recommends that Alabama'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 Office's actions in responding to incidents, the review team examined the Office's responses to the questionnaire relative to this indicator, reviewed the incident reports for Alabama in NMED against those contained in the Office's files, and evaluated reports and supporting documentation for ten incidents. A list of the incident casework examined with case-specific comments is included in Appendix E. The review team also reviewed the Office's response to 16 allegations involving radioactive material, including four allegations referred to the Office by the NRC during the review period.

The incidents selected for review included the following categories: misadministrations, stolen gauges, overexposures, improper disposal of radioactive material, equipment failure, and damaged equipment. The review team found that the Office's response to incidents was generally complete and comprehensive. Initial responses were prompt and well-coordinated, and the level of effort was commensurate with the health and safety significance. The Office dispatched inspectors for onsite investigations when appropriate, and took suitable enforcement and follow-up actions.

The responsibility for initial response and follow-up actions to materials incidents may be assigned to any member of the materials program. Upon receipt, Office staff reviews a report, decides on the appropriate response, and gives the report a unique Office number and logs it into the incident log. Documentation related to an incident is placed both in an incident file and in the appropriate license file.

The review team identified 71 incidents in NMED for Alabama during the review period. As noted in Section 2.0, the Office adopted a procedure providing that reports of incidents that require immediate notification to the State be provided to the NRC within 24 hours of notification, and that reports of incidents that require notification to the State within 30 days be provided to the NRC monthly. The review team noted that all significant events (requiring 24 hour notification) and routine and/or event updates (requiring 30-day notification) were reported to the NMED on a monthly basis since the previous IMPEP review. The review team noted that the Office was responsive in providing the requested information to the NMED contractor by way of email with attachments.

It was noted that the Office received and was using the latest NMED software by two Office staff members who had recently completed the new NMED software training. The Office staff member

indicated that the NMED training was very helpful and that the latest version of the NMED software is very user-friendly. The Office uses the NMED software to track all radioactive material incidents.

In evaluating the effectiveness of Alabama's actions responding to allegations, the review team examined the Office's questionnaire responses relative to this indicator. The casework for the four allegations referred by the NRC was reviewed as well as the case work for 12 additional allegations reported directly to the State. The Office evaluates each allegation and determines the proper level of response. The review of the casework and the Office files indicated that the Office took prompt and appropriate action in response to the concerns raised. All of the allegations reviewed were appropriately closed and the review 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 casework documentation.

The review team noted that Alabama law requires that all public documents be made available for inspection and copying unless specifically exempted from disclosure under the State's Open Records Act. The State makes every effort to protect an alleged's identity, but it cannot be guaranteed. During the initial telephone contact, the alleged is advised that their anonymity cannot be guaranteed.

Based on the IMPEP evaluation criteria, the review team recommends that Alabama'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. Alabama's Agreement does not authorize regulation of uranium recovery activities, 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

Along with the Office's response to the questionnaire, the staff provided the review team with the opportunity to review copies of legislation that affects the radiation control program. Legislative authority to create the program and enter into an Agreement with the NRC was granted in 1963 (Acts of 1963, No. 582). The State Board of Health is designated as the State's radiation control agency. The authority to enter the Southeast Interstate Low-Level Radioactive Waste Compact was granted in 1982 (Acts of 1982, No. 328). The review team noted that the legislation had not changed since the previous IMPEP review.

4.1.2 Program Elements Required for Compatibility

The State regulations for control of radiation are located in Chapter 420-3-26 of the Alabama regulations for Control of Radiation and apply to ionizing and non-ionizing radiation, whether emitted from radionuclides or devices. Alabama requires a license for possession and use of radioactive materials, including naturally occurring and accelerator-produced radionuclides. A copy of the effective Alabama regulations, including the last amendments which became effective as of August 6, 2001, was given to the review team.

The review team examined the procedures used in the State's rule-making process and found that the public and other interested parties are offered an opportunity to comment on proposed regulation changes. Rule-making responsibility is assigned to the Office Director. It was noted that draft regulations were sent to the NRC for review and comment, and when necessary, the NRC comments were incorporated. The package of proposed regulations prepared by the Office requires review by the Alabama Office of General Counsel and approval from the State Committee of Public Health. The State has Emergency Rule capability, if public health and safety is at risk. It was noted that the State's rules and regulations are not subjected to "sunset" laws.

The review team evaluated the Office 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 Program's (STP) State Regulation Status Data Sheet. Since the previous IMPEP review, the Department adopted 12 regulation amendments in two rule packages that became effective in May 2000 and August 2001. In addition, the following regulation amendment is currently under NRC review. NRC staff has provided preliminary comments to the Office for consideration. The final rules are expected to be approved by the State Committee of Public Health on April 17, 2002.

- ! "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.

The State has no overdue regulations required for compatibility. The Office will need to address the following five regulations in upcoming rule makings 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.
- ! "New Dosimetry Technology," 10 CFR Parts 34, 36, and 39 amendments (65 FR 63749) that became effective January 8, 2001.
- ! "Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material," 10 CFR Parts 30, 31, and 32 amendments (65 FR 79162) that became effective February 16, 2001.
- ! "Revision of the Skin Dose Limit," 10 CFR Part 20 amendment (67 FR 16298) that became effective April 5, 2002.

- ! "Medical Use of Byproduct Material," 10 CFR 20, 32, and 35 amendments (67 FR 20249) that became effective April 24, 2002.

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

During the review period, no SS&D certificates were issued by the Office. Although the Office does not have a branch dedicated to conducting reviews, it does have the authority to collect the full cost of an evaluation, and to contract for a review by qualified persons. The review team did not evaluate this indicator further.

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

5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found Alabama's performance to be satisfactory for all six performance indicators. Accordingly, the review team recommended and the MRB concurred in finding the Alabama Agreement State program to be adequate and compatible with NRC's program. Based on the results of the current IMPEP review, the review team recommends that the next full review should be in approximately four years. No recommendations were made by the review team.

LIST OF APPENDICES AND ATTACHMENTS

Appendix A	IMPEP Review Team Members
Appendix B	Alabama Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Attachment	May 21, 2002 E-mail from Kirksey Whatley to Kevin Hsueh - Alabama's Response to Draft IMPEP Report

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
Kevin Hsueh, STP	Team Leader Technical Staffing and Training Legislation and Program Elements Required for Compatibility
Shawn Seeley, Maine	Status of Materials Inspection Program Technical Quality of Inspections Inspection Accompaniments
Richard Woodruff, Region II	Technical Quality of Licensing Actions
Richard Leonardi, Region IV	Response to Incidents and Allegations

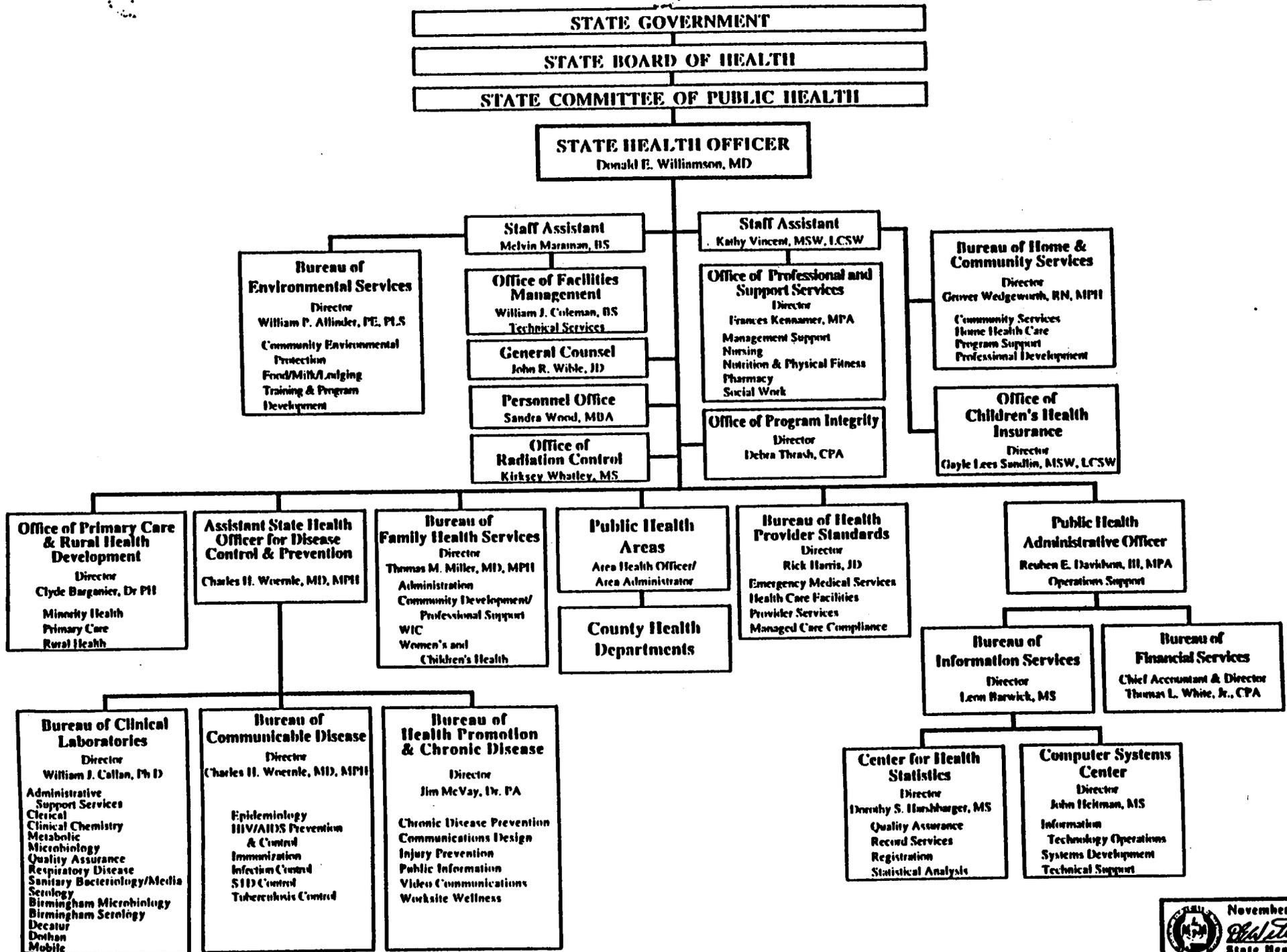
APPENDIX B

ALABAMA OFFICE OF RADIATION CONTROL

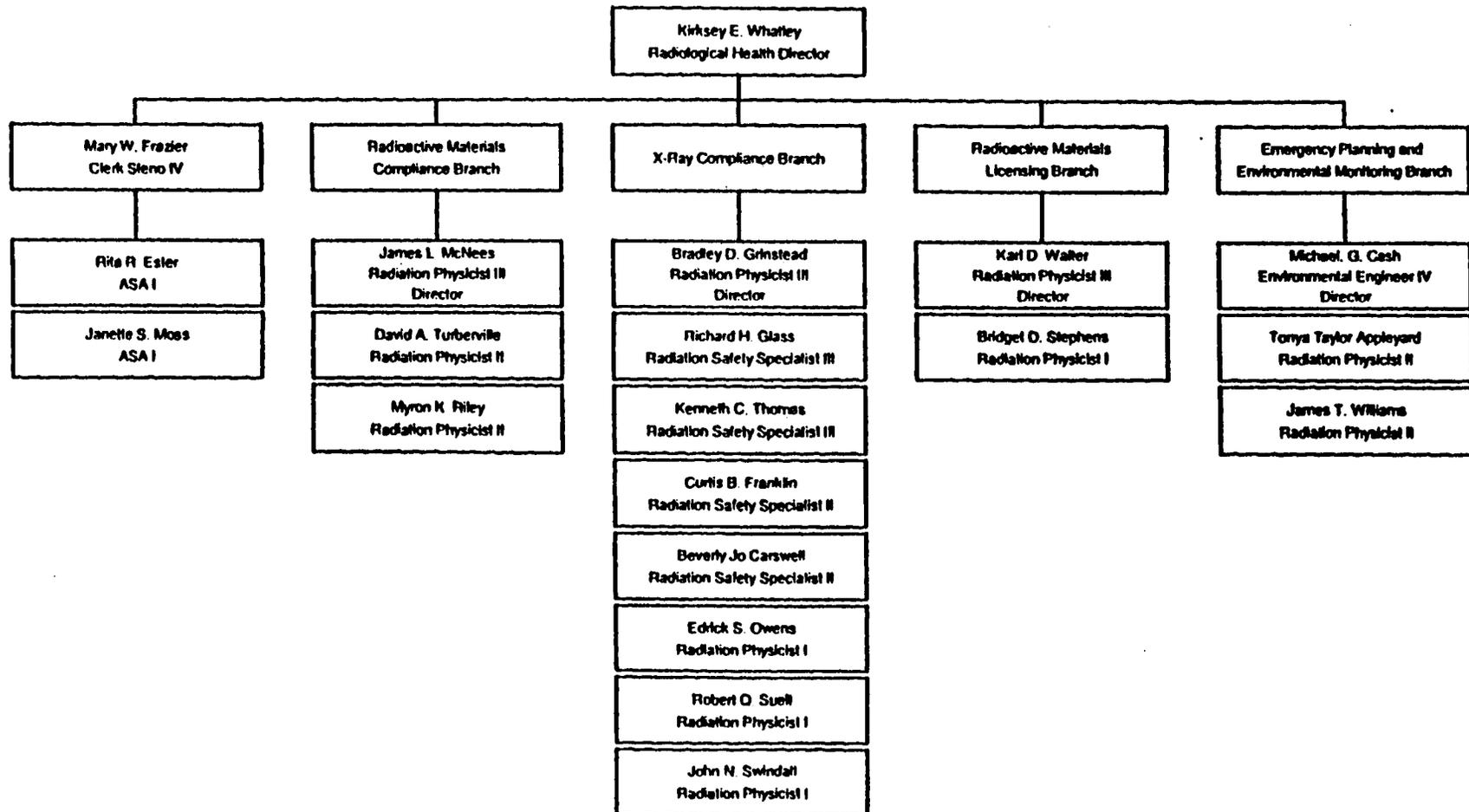
ORGANIZATION CHARTS

ML021330373

ORGANIZATION OF THE ALABAMA DEPARTMENT OF PUBLIC HEALTH



Office of Radiation Control



APPENDIX C

INSPECTION 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: Professional Service Industries

Location: Irondale, AL

License Type: Industrial Radiography

Inspection Date: 2/28/02

License No.: 368

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: DT

Comment:

- a) Inspection note form contains wrong rule citation, should be 420-26-04(19)(a)4 and not 420-26-03(19)(a)4 as written.

File No.: 2

Licensee: Professional Service Industries

Location: Irondale, AL

License Type: Industrial Radiography

Inspection Date: 5/8/01

License No.: 368

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: MR

File No.: 3

Licensee: ACIPCO (American Cast Iron Pipe Co)

Location: Birmingham, AL

License Type: Industrial Radiography

Inspection Date: 2/28/02

License No.: 338

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: MR

Comments:

- a) Notice of Violation (NOV) did not reference phone call to RSO following inspection. No phone record in file as to conversation with RSO.
- b) Previous inspection noted as 7/11/00 should have been 4/11/00.

File No.: 4

Licensee: ACIPCO (American Cast Iron Pipe Co)

Location: Birmingham, AL

License Type: Industrial Radiography

Inspection Date: 4/11/00

License No.: 338

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: RP

File No.: 5

Licensee: Health South Medical Center

Location: Birmingham, AL

License Type: Gamma Knife

Inspection Date: 2/27/02

License No.: 1179

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: DT

File No.: 6

Licensee: Health South Medical Center

Location: Birmingham, AL

License Type: Gamma Knife

Inspection Date: 2/7/01

License No.: 1179

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: DT

File No.: 7

Licensee: Bessemer Carraway Medical Center
Location: Bessemer, AL
License Type: Medical Institution-No QMP
Inspection Date: 2/27/02

License No.: 546
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: MR

Comments:

- a) Inspection form missing date of review, however NOV was sent within 2 weeks of inspection (3/11/02).
- b) Missing phone record of conversation with RSO following inspection.

File No.: 8

Licensee: Bessemer Carraway Medical Center
Location: Bessemer, AL
License Type: Medical Institution-No QMP
Inspection Date: 7/16/99

License No.: 546
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: DT

File No.: 9

Licensee: Non Destructive Visual testing, Inc.
Location: Cottdale, AL
License Type: Industrial Radiography
Inspection Date: 3/29/02

License No.: 1174
Inspection Type: Routine, Unannounced
Priority: 1
Inspector: DT

File No.: 10

Licensee: University of South Alabama
Location: Mobile, AL
License Type: Academic Broad Scope
Inspection Date: 2/20-23/02

License No.: 584
Inspection Type: Routine, Unannounced
Priority: 1
Inspector: DT, MR

Comment:

- a) Regulatory language/terminology not consistent in documenting results (NOV).

File No.: 11

Licensee: Eastern Technologies
Location: Ashford, AL
License Type: Nuclear Laundry
Inspection Date: 1/30-31/02 and 2/1/02

License No.: 947
Inspection Type: Routine, Unannounced
Priority: 2
Inspector: DT, DW, MR, BS

File No.: 12

Licensee: Regis Engineering Solutions, Inc.
Location: Montgomery, AL
License Type: Other Services-Gauge Services
Inspection Date: 10/19/00

License No.: 1228
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: RP

File No.: 13

Licensee: Samford University

Location: Birmingham, AL

License Type: R & D other

Inspection Date: 5/15/01

License No.: 892

Inspection Type: Routine, Unannounced

Priority: 5

Inspector: MR

File No.: 14

Licensee: Southeast Apothecary - Opelika

Location: Opelika, AL

License Type: Nuclear Pharmacy

Inspection Date: 11/28/01

License No.: 1293

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: JM

Comment:

a) Inspection form not reviewed by Office management.

File No.: 15

Licensee: Southeast Apothecary - Opelika

Location: Opelika, AL

License Type: Nuclear Pharmacy

Inspection Date: 9/7/00

License No.: 1293

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: DT, MR

File No.: 16

Licensee: Transmolecular, Inc.

Location: Birmingham, AL

License Type: Research & Development

Inspection Date: 7/10/01

License No.: 1319

Inspection Type: Routine, Announced, Initial

Priority: 5

Inspector: DT

File No.: 17

Licensee: East Alabama Cardiovascular Associates

Location: Opelika, AL

License Type: medical Private Practice – No QMP required

Inspection Date: 10/5/00

License No.: 1302

Inspection Type: Routine, Announced, Initial

Priority: 3

Inspector: DT

File No.: 18

Licensee: Baptist Medical Center - Montclair

Location: Birmingham, AL

License Type: Medical Institution – QMP required

Inspection Date: 5/10 & 17/01

License No.: 593

Inspection Type: Routine, Unannounced

Priority: 3

Inspector: DT, MR

Comment:

a) Survey instrument operability was checked as being "No" and no violation was cited. Further review of the inspector's notes showed that it should have been checked "Yes."

File No.: 19

Licensee: Southern Research Institute
Location: Birmingham, AL
License Type: Research & Development
Inspection Date: 3/1-2/01

License No.: 262
Inspection Type: Routine, Unannounced
Priority: 2
Inspector: DT

Comment:

- a) Regulatory language/terminology not consistent in documenting results (NOV).

File No.: 20

Licensee: Space Science Services
Location: Dothan, AL
License Type: Industrial Radiography
Inspection Date: 7/18/01

License No.: 217
Inspection Type: Routine, Unannounced
Priority: 1
Inspector: MR

Comment:

- a) Wrong previous inspection date noted, should have been 4/13/00 instead of 4/13/01.

File No.: 21

Licensee: Fort James Pennington, Inc.
Location: Pennington, AL
License Type: Measuring Systems - Fixed Gauges
Inspection Date: 10/14/99

License No.: 299
Inspection Type: Routine, Unannounced
Priority: 5
Inspector: RP

File No.: 22

Licensee: Jackson Paving
Location: Guntersville, AL
License Type: Measuring Systems – Portable Gauges
Inspection Date: 8/17/00

License No.: 1167
Inspection Type: Routine, Unannounced
Priority: 5
Inspector: DT

File No.: 23

Licensee: Wise Alloys
Location: Muscle Shoals, AL
License Type: Measuring Systems – Fixed Gauges
Inspection Date: 8/10/99

License No.: 184
Inspection Type: Routine, Unannounced
Priority: 5
Inspector: DT

File No.: 24

Licensee: Southern Inspection Services
Location: Moss Point, MS
License Type: Industrial radiography
Inspection Date: None

License No.: 1320
Inspection Type: Routine unannounced attempted
Priority: 1
Inspector: MR

Comment:

- a) Inspection was attempted 1/10/01 by MR. Became licensed in Alabama 2/01, have not been able to schedule initial inspection due to infrequent work in the State.

File No.: 25

Licensee: Gulf Coast Quality

Location: Jay, FL

License Type: Industrial Radiography

Inspection Date: None

License No.: FL-1495-1

Inspection Type: Routine unannounced attempted

Priority: 1

Inspector: DT

Comment:

- a) Inspection attempted 4/5/02 by DT, work at jobsite completed early.

In addition, the following inspection accompaniments were made as part of the on-site IMPEP review:

Accompaniment No.: 1

Licensee: Bessemer-Carraway Medical Center

Location: Bessemer, AL

License Type: Medical-limited, No QMP required

Inspection Date: 2/27/02

License No.: 546

Inspection Type: Routine, Unannounced

Priority: 3

Inspector: MR

Comments:

- a) Although several health and safety issues identified during inspection, exit could have been used to signify their importance.
- b) See also file review #7 for any additional comments.

Accompaniment No.: 2

Licensee: HealthSouth

Location: Birmingham, AL

License Type: Gamma Knife

Inspection Date: 2/27/02

License No.: 1179

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: DT

Accompaniment No.: 3

Licensee: ACIPCO (American Cast Iron Pipe Co.)

Location: Birmingham, AL

License Type: Industrial radiography, Permanent

Inspection Date: 2/28/02

License No.: 338

Type Inspection: Routine, Unannounced

Priority: 1

Inspector: MR

Comment:

- a) See File review #3 for comments.

Accompaniment No.: 4

Licensee: Professional Services Industries

Location: Irondale, AL

License Type: Industrial Radiography

Inspection Date: 2/28/02

License No.: 368

Inspection Type: Routine, Unannounced

Priority: 1

Inspector: DT

Comment:

- a) See File review #1 for comments.

APPENDIX D

LICENSE 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: Regional Nuclear Pharmaceuticals, L.L.C.

Location: Birmingham, AL

License Type: Nuclear Pharmacy

Date Issued: 3/19/02

License No.: 1290

Amendment: 3

Type of Action: Amendment

License Reviewer: DW

File No.: 2

Licensee: Southeast Apothecary-Opelika

Location: Opelika, AL

License Type: Nuclear Pharmacy

Date Issued: 3/28/02

License No.: 1293

Amendment No.: 4

Type of Action: Amendment

License Reviewer: DW

File No.: 3

Licensee: Eastern Technologies, Inc.

Location: Ashford, AL

License Type: Nuclear Laundry

Date Issued: 3/23/02

License No.: 947

Amendment No.:11

Type of Action: Amendment

License Reviewer: DW

File No.: 4

Licensee: Southern Inspection Services, Inc.

Location: Moss Point, MS

License Type: Industrial Radiography

Date Issued: 2/21/01

License No.: 1320

Amendment No.: 0

Type of Action: New

License Reviewer: BS

File No.: 5

Licensee: UNISPEC, L.L.C.

Location: Theodore, AL

License Type: Portable Gauge

Date Issued: 6/11/01

License No.: 1330

Amendment No.: 0

Type of Action: New

License Reviewer: DW

File No.: 6

Licensee: JAN X-Ray Services, Inc.

Location: Parma, MI

License Type: Industrial Radiography

Date Issued: 11/13/02

License No.: 1281

Amendment No.: 2

Type of Action: Amendment

License Reviewer: DW

File No.: 7

Licensee: Shaw Pipeline Services, Inc.

Location: Tulsa, OK

License Type: Industrial Radiography

Date Issued: 10/4/01

License No.: 1333

Amendment No.: 1

Type of Action: Amendment

License Reviewer: DW

File No.: 8

Licensee: Alliance Imaging Services, Inc.
Location: Anaheim, CA
License Type: Mobile Nuclear Medicine
Date Issued: 11/20/01

License No.: 1341
Amendment No.: 0
Type of Action: New
License Reviewer: BS

File No.: 9

Licensee: Advanced Medical Systems
Location: Alabaster, AL
License Type: Mobile Nuclear Medicine
Date Issued: 12/7/01

License No.: 1343
Amendment No.: 0
Type of Action: New
License Reviewer: BS

File No.: 10

Licensee: HEALTHSOUTH Diagnostic Center
Location: Tuscaloosa, AL
License Type: Medical, Private Practice, QMP required
Date Issued: 5/10/00

License No.: 1300
Amendment No.: 0
Type of Action: New
License Reviewer: DW

File No.: 11

Licensee: Neel-Schafer, Inc.
Location: Birmingham, AL
License Type: Portable Gauge
Date Issued: 10/16/01

License No.: 1337
Amendment No.: 0
Type of Action: New
License Reviewer: BS

File No.: 12

Licensee: Seton Medical Management
Location: Mobile, AL
License Type: Private Medical, Isotope therapy and HDR
Date Issued: 2/6/02

License No.: 1346
Amendment No.: 0
Type of Action: New
License Reviewer: BS

File No.: 13

Licensee: Mid-South Testing, Inc.
Location: Decatur, AL
License Type: Portable Gauge
Date Issued: 2/15/00

License No.: 1294
Amendment No.: 0
Type of Action: New
License Reviewer: DW

File No.: 14

Licensee: Beaulieu Fibers
Location: Bridgeport, AL
License Type: Fixed gauge
Date Issued: 9/28/99

License No.: 1286
Amendment No.: 0
Type of Action: New
License Reviewer: DW

File No.: 15

Licensee: Birmingham Southern College
Location: Birmingham, AL
License Type: Educational
Date Issued: 2/2/00

License No.: 1046
Amendment No.: 2
Type of Action: Termination
License Reviewer: DW

Alabama Final Report
License Casework Review

Page D.3

File No.: 16

Licensee: Birmingham Southern College
Location: Birmingham, AL
License Type: Research
Date Issued: 2/2/00

License No.: SNM-157
Amendment No.:10
Type of Action: Termination
License Reviewer: DW

File No.: 17

Licensee: GE Inspection Services
Location: Decatur, AL
License Type: Industrial Radiography
Date Issued: 6/20/00

License No.:1259
Amendment No.:4
Type of Action: Terminated
License Reviewer: DW

File No.: 18

Licensee: Eliza Coffee Memorial Hospital
Location: Florence, AL
License Type: Institutional medical with therapy
Date Issued: 1/3/01

License No.: 662
Amendment No.: 15
Type of Action: Renewal
License Reviewer: DW

File No.: 19

Licensee: Cooper Green Hospital
Location: Birmingham, AL
License Type: Institutional Medical with therapy
Date Issued: 9/26/01

License No.: 527
Amendment No.: 29
Type of Action: Amendment
License Reviewer: DW

File No.:20

Licensee: University of Alabama in Huntsville
Location: Huntsville, AL
License Type: Academic/Research
Date Issued: 8/10/01

License No.: 518
Amendment No.: 29
Type of Action: Amendment
License Reviewer: DW

File No.: 21

Licensee: Auburn University
Location: Auburn, AL
License Type: Pool Irradiator
Date Issued: 3/28/02

License No.: 415
Amendment No.: 10
Type of Action: Amendment
License Reviewer: DW

File No.: 22

Licensee: University of South Alabama
Location: Mobile, AL
License Type: Broad Medical
Date Issued: 2/28/02

License No.: 584
Amendment No.: 48
Type of Action: Amendment
License Reviewer: DW

APPENDIX E

INCIDENT 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: Asphalt Contractors, Inc.

Site of Incident: Electric, AL

Date of Incident: 8/1/98

Investigation Date: 8/1/98

License No.: 1045

Incident Log No.: 98-12 (NMED #980849)

Type of Incident: Damaged Equipment

Type of Investigation: Phone

Summary of Incident and Final Disposition: A Campbell Pacific Model MC Series M/D nuclear gauge was damaged at a job site when a trailer being pulled by a truck backed over the gauge. The licensee's Radiation Safety Officer (RSO) indicated that the source rod was slightly bent, but he was able to pull the source back into the shield. An Office inspector instructed the RSO by phone to close and lock the device in the approved shipping container and return the case and gauge to the manufacturer for repair or disposal. An Office health physicist confirmed telephonically with the gauge manufacturer that the source had been leak tested, and the source was not damaged, nor was it leaking. The manufacturer reported extensive damage to the electronics, but no damage to the source capsule. Wipe tests failed to find any contamination.

File No.: 2

Licensee: Bhate Engineering Corporation

Site of Incident: Oak Grove, AL

Date of Incident: 3/17/99

Investigation Date: 3/18/99

License No.: 655

Incident Log No.: 99-5 (NMED #990192)

Type of Incident: Damaged Equipment

Type of Investigation: Phone

Summary of Incident and Final Disposition: A Troxler moisture density gauge was reported damaged to the Office by a radiological consultant. The consultant indicated that the nuclear gauge was backed over by a John Deere 770B-H motor grader. The gauge's source rod was in the shielded position when the accident happened. The impact bent the source rod inside the gauge, and crushed the shield around the source capsule. The consultant traveled to the location, checked for contamination, and finding none, he secured the source rod with duck tape. The consultant surveyed the gauge, recording 2.5 mR/hr six inches from the gauge surface. The consultant indicated that the licensee plans on shipping the damaged gauge to the manufacturer for repair/disposal.

File No.: 3

Licensee: BFI Landfill (non-licensee)

Site of Incident: Brewton, AL

Date of Incident: 8/7/98

Investigation Date: 8/7/98, 8/17/98, and 8/20/98

License No.: NA

Incident Log No.: 98-13 (NMED #980949)

Type of Incident: Improper disposal of radioactive material

Type of Investigation: On-site

Summary of Incident and Final Disposition: A BFI landfill operator reported that a load of garbage has set off its gate radiation detectors. The Office dispatched an individual the same day to the site to investigate. Preliminary evaluation determined the unknown material to be radioactive I-131 contained on what was later identified as sanitary napkins in some household trash. The maximum radiation levels recorded were 18 mR/hr on contact with the bag. The origin of the household trash is unknown.

File No.: 4

Licensee: Building And Earth Sciences, Inc.

Site of Incident: Hoover, AL

Date of Incident: 5/5/00

Investigation Date: 5/5/00

License No.: 1266

Incident Log No.: 00-10 (NMED #000350)

Type of Incident: Damaged Equipment

Type of Investigation: Telephone

Summary of Incident and Final Disposition: The licensee reported that a moisture/density gauge was damaged by an bulldozer at a construction site. The gauge was surveyed, recovered, and secured by the licensee. The sealed source was not damaged. There was no unusual radiation levels and leak tests results were negative. This event was caused by the gauge not being properly controlled.

File No.: 5

Licensee: Building And Earth Sciences, Inc.

Site of Incident: Auburn, Alabama

Date of Incident: 1/18/02

Investigation Date: 1/22/02

License No.: 1266

Incident Log No.: 02-04 (NMED #020124)

Type of Incident: Stolen Gauges

Type of Investigation: Phone

Summary of Incident and Final Disposition: The licensee reported to the Office that two employees stopped for food for about 30 minutes and discovered that a Troxler Model 3430 (SN 30208) gauge containing a 9 mCi Cs-137 and a 44 mCi Am-241 source had been stolen. Later that day, the Auburn Police Department found the gauge, in tact, in its transport container. The gauge had been abandoned. The Auburn Police Department contacted a radiation advisor with Auburn University who asked that the gauge be transported to the university for safe keeping until final disposal. Later, representatives of the licensee picked-up the gauge for return to the licensee's offices. The licensee had sent a FAX to the Office after hours on a Friday and had not notified the Office by pager as required. The Office indicated to its licensee that a FAX sent to the Office after hours did not constitute immediate notification as required.

File No.: 6

Licensee: Central Pharmacy Services

Site of Incident: Birmingham, AL

Date of Incident: 1/2/02

Investigation Date: None

License No.: 1168

Incident Log No.: 02-08 (NMED #020248)

Type of Incident: Overexposure

Type of Investigation: None

Summary of Incident and Final Disposition: In a written notification to the Office dated 12/22/01, the licensee reported that the licensee's TLD supplier reported that a licensee's authorized user received an extremity dose of 52.1 rem. The individual was identified as a new pharmacist who received several high readings in the first few months of 2001. The licensee was advised of the overexposure on 12/11/01, and immediately removed the individual from licensed activities and the restricted area for the remainder of 2001. This individual worked at the licensee's Gadsden, Alabama facility.

File No.: 7

Licensee: Challenge Engineering & Testing, inc.

Site of Incident: Mobile, AL

Date of Incident: 1/16/01

Investigation Date: 1/16/01

License No.: 0147

Incident Log No.: 01-02 (NMED #010208)

Type of Incident: Overexposure

Type of Investigation: Phone

Summary of Incident and Final Disposition: On 1/6/01, the Office was notified by Challenge Engineering & Testing, Inc., that a licensee radiographer had received a total annual dose of 5.046 rem. Upon receipt of the licensee's October 2000 badge report, the licensee became aware that the radiographer was close to the limit with an exposure of 4.44 rem. The matter was discussed with the radiographer and precautions were considered. On 12/19/00, the licensee's badge processor notified the licensee that with the individual's November totals, the radiographer's exposure for 2000 was 5.01 rem. The radiographer was not permitted to perform any further radiography as of 12/19/00. With the December badge report, the radiographer was determined to have received a total annual dose of 5.046 rem. The Office issued the licensee a Notice of Violation. The licensee committed to undertake the tracking of doses on daily dosimeter logs, stop employees from performing industrial radiography when year-to-date doses and dosimeter logs tally more than 4.8 rem, and review workloads of radiographers to determine the need for rotation of employees.

File No.: 8

Licensee: Flowers Hospital

Site of Incident: Dothan, AL

Date of Incident: 6/5/01

Investigation Date: 6/29/01-7/2/01

License No.: 0549

Incident Log No.: 01-11 (NMED #010644)

Type of Incident: Misadministration

Type of Investigation: On-Site

Summary of Incident and Final Disposition: The licensee received 110 I-131 seeds with a labeled activity of 0.414 mCi each and 8 seeds with a labeled activity of 0.270 mCi each. A sampling of 12 seeds were assayed in the dose calibrator by the licensee's medical physicist with a mean activity of 0.2909 +/- 0.0054 mCi determined. Because the medical physicist was not familiar with the dose calibrator, he did not recognize the differences between the assayed amounts and the labeled amounts as a problem. All 118 seeds were utilized on June 5, 2001, for a prostate seed implant procedure. On June 16, 2001, Nycomed Amersham, the seed supplier, contacted Flowers Hospital and advised the licensee that there had been a dispensing error where 110 seeds with 0.270 mCi activity were sent out labeled as 0.414 mCi activity. Investigation by the licensee determined that the dispensing error resulted in an patient under-dose of approximately 33 percent.

File No.: 9

Licensee: Global X-Ray & Testing Corporation

Site of Incident: Saraland, AL

Date of Incident: 5/8/01

Investigation Date: 5/29/01

License No.: 1059

Incident Log No.: 01-08 (NMED #010766)

Type of Incident: Equipment Failure

Type of Investigation: Phone

Summary of Incident and Final Disposition: On the morning of 5/8/01, a radiography crew for Global X-Ray & Testing Corporation performing at a temporary job site was involved in an incident where both personnel's pocket dosimeters went off-scale. As described by the licensee, the first radiographer forgot his survey meter when he approached the exposure device after an exposure. The Ir-192 sealed source (105 curies) was not in the fully shielded position. This radiographer's alarming ratemeter did not alarm. When the second radiographer approached the exposure device, his alarming ratemeter did alarm. The crew implemented emergency procedures and fully retracted the source. The source guide tube was determined to be in a bind. The two radiographer's film badges were sent in for emergency processing. The first radiographer had a film badge reading of 3.606 rem Deep Dose Equivalent (DDE) and the second radiographer had a film badge reading of 1.917 rem DDE. There was no problems with the self-locking feature of the exposure device. Upon receiving the exposure report, the licensee relieved one of the radiographers from radioactive material use and a safety meeting was held to discuss the occurrence as well as corrective measures.

File No.: 10

Licensee: HealthSouth Medical Center

Site of Incident: Birmingham, AL

Date of Incident: 4/12/00

Investigation Date: 4/12/00

License No.: 1179

Incident Log No.: 00-08 (NMED #000336)

Type of Incident: Misadministration

Type of Investigation: Phone

Summary of Incident and Final Disposition: The licensee reported a medical event where a gamma knife containing 6592.8 Ci (activity as of 8/1/95) of Co-60 was set up incorrectly and delivered the dose to the wrong location of a patient's brain. Two patients were being treated the same day for the same medical problem. The individual treatment plans were placed in the wrong patient folders. Therefore, the wrong patient treatment coordinates were used on the patient. A dose of 8000 rad was delivered to the patient's wrong treatment site. The intended treatment site received 2000 rad. As a result of the misadministration, the licensee took immediate action to prevent the mixing of patient treatment protocol documentation.

ATTACHMENT

May 21, 2002 E-mail from Kirksey Whatley to Kevin Hsueh
Alabama's Response to Draft IMPEP Report

ML021570384

From: <kwhatley@adph.state.al.us>
To: <kph@nrc.gov>
Date: 5/21/02 11:17AM
Subject: 2002 Alabama Draft IMPEP Report

Staff have reviewed the draft IMPEP report and offer the following comments:

1. Refer to page 3 of the draft report, 3rd. paragraph, last sentence:

We do not require out-of-state licensees, who hold an Alabama license, to provide a 3-day notification prior to each entry. They are required to notify us prior to each entry, but the 3-day restriction is not imposed. They can simply call the same day of work if necessary.

2. Refer to page 5 of the draft report. Under "Technical Staffing and Training", refer to the 4th. paragraph, last sentence:

Fees do not fund emergency planning activities. Most all of the emergency response planning activities are directly related to activities associated with Browns Ferry and Farley Nuclear Facilities. We contract with the Tennessee Valley Authority and Alabama Power Company to fund these activities. Funds from fees are not used for emergency planning and activities associated with either of these facilities. Fees from funds are used for our environmental monitoring activities and emergency response activities related to responding to needs of licensees, landfills, transportation, etc.

3. Refer to page 6, 2nd. paragraph:

Suggest that you include in the paragraph that David Turberville served as Chair of the CRCPD Suggested State Regulations Committee, Part E, on Industrial Radiography (NRC Part 34).

Thanks for the opportunity to review the draft report. I assume that this response by e-mail will be sufficient. If you need a formal letter of response, please advise me.

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

QUESTIONNAIRE

Name of State Program: Office of Radiation Control
Alabama Department of Public Health
Reporting Period: April 24, 1998, to March 1, 2002

A. COMMON PERFORMANCE INDICATORS

I. Status of Materials Inspection Program

1. Please prepare a table identifying the licenses with inspections that are overdue by more than 25% of the scheduled frequency set out in NRC Inspection Manual Chapter 2800. The list should include initial inspections that are overdue.

RESPONSE:

<u>Licensee Name</u>	<u>Insp. Frequency (Years)</u>	<u>Due Date</u>	<u>Months O/D</u>
Nondestructive & Visual Inspection #1174	1	8/22/01	4 months

This is a one crew radiography operation that has not been available at the licensee's permanent offices for inspection. Currently working at temporary job site in Georgia.

2. Do you currently have an action plan for completing overdue inspections? If so, please describe the plan or provide a written copy with your response to this questionnaire.

RESPONSE:

Licensee #1174 will return from Georgia later this month and we will conduct an announced inspection.

¹ Estimated burden per response to comply with this voluntary collection request: 53 hours. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0183), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

3. Please identify individual licensees or groups of licensees the State/Region is inspecting more or less frequently than called for in NRC Inspection Manual Chapter 2800 and state the reason for the change.

RESPONSE:

- A. NRC priority 6 and 7 are assigned to a five year frequency the same as NRC priority 5's.
- B. NRC program codes 2121 (Medical Institution - No QMP) and 2201 (Medical Private Practice - No QMP) are assigned a three year frequency instead of NRC's five
- C. NRC program code 1110 (Academic Type B Broad) is assigned a two year frequency instead of NRC's five.
- D. An interval extension for good compliance, similar to NRC's, is utilized. However unlike NRC, Alabama makes this determination at the time the next regular interval inspection is due. Alabama does not extend for good compliance if the file indicates that since the last inspection significant increases have occurred in the scope of activities or if RSO management has changed.
- E. Alabama has an established policy for reduction of inspection interval depending upon number, severity, repetitiveness of violations.

4. Please complete the following table for licensees granted reciprocity during the reporting period.

	Number of Licensees Granted Reciprocity Permits Each Year	Number of Licensees Inspected Each Year
Service Licensees performing teletherapy and irradiator source installations or changes	YR 1998 1 YR 1999 0 YR 2000 0 YR 2001 0	YR 1 YR YR YR
1	YR 1998 12 YR 1999 7 YR 2000 6 YR 2001 10	YR 3 (SEE NOTE) YR 1 YR 0 YR 1 INSPECT and 1 attempted

	Number of Licensees Granted Reciprocity Permits Each Year	Number of Licensees Inspected Each Year
2	YR 1998 2 YR 1999 0 YR 2000 0 YR 2001 1	YR 2 YR YR YR 1
3	YR 1998 16 YR 1999 17 YR 2000 15 YR 2001 18	YR 1 YR 0 YR 1 YR 0 (1 ATTEMPTED)
5 & 7	yr 1998 14 yr 1999 10 yr 2000 6 yr 2001 12	yr 0 yr 0 yr 0 yr 0
All Other		

Note: Alabama rules allow only 30 days of reciprocity in a calendar year. After 30 days, an out-of-state company obtains an Alabama license even though they do not have an inspectible permanent location in Alabama. These companies are required to notify Alabama of each use of radiation within the state just as if they were working on reciprocity. During 2001 three such out-of-state radiography licensees (License numbers 1281, 1214, and 1333) were subject to field inspections. In 2000 two out-of-state licensees, License Nos. 1091 (priority 5) and 1172 (priority 2), were subject to field inspection. In 1999 three out-of-state licensees, License Nos. 1140 (priority 5), 1093 (priority 3), and 1251 (priority 1) were subject to field inspection. In 1998 three out-of-state licensees, License Nos. 934, 1180, and 1217 (all priority 1) were subject to field inspection. These would be reciprocity inspections if Alabama had 180 days of reciprocity like the NRC.

Note: Current data base does not include field for attempted inspections. Notes are placed in individual files. Other inspections were attempted but not documented in data base.

5. **For NRC Regions**, did you establish numerical goals for the number of inspections to be performed during this review period? If so, please describe your goals, the number of inspections actually performed, and the reasons for any differences between the goals and the actual number of inspections performed.

RESPONSE:

Alabama has previously stated that we would strive towards reaching the percentages in Appendix III of Manual Chapter 1220 while doing so as unannounced inspections of actual field work locations. Unfortunately we have never been able to achieve that goal.

II. Technical Quality of Inspections

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

RESPONSE:

None

7. Prepare a table showing the number and types of supervisory accompaniments made during the review period. Include:

RESPONSE:

<u>Inspector</u>	<u>Supervisor</u>	<u>License Cat.</u>	<u>Date</u>
David Turberville	Jim McNees	3320	8/28/01
David Turberville	Jim McNees	2120	8/28/01
David Turberville	Jim McNees	3219	4/18/00
David Turberville	Kirk Whatley	3121	6/11/99
David Turberville	Jim McNees	2120	4/16/98
Myron Riley	Jim McNees	3320	6/22/01
Myron Riley	Jim McNees	2120	1/17/01
Myron Riley	Jim McNees	3120	8/9/00
Ron Pass	Kirk Whatley	3121	6/10/99
Ron Pass	Kirk Whatley	2120	6/10/99

8. Describe internal procedures for conducting supervisory accompaniments of inspectors in the field.

RESPONSE:

There are no written internal procedures. IMPEP requirements dictate frequency.

9. Describe or provide an update on your instrumentation and methods of calibration. Are all instruments properly calibrated at the present time? Were there sufficient calibrated instruments available through the review period?

RESPONSE:

Ludlum	14C	149225	2/8/02
Ludlum	14C	151323	2/8/02
Ludlum	14C	149177	2/6/02
Ludlum	14C	149250	2/7/02

Ludlum	14C	149147	2/7/02
Ludlum	14C	149234	2/7/02
Ludlum	14C	149207	2/8/02
Ludlum	14C	149243	2/9/02
Ludlum	14C	149189	2/9/02
Ludlum	14C	149208	2/9/02
Ludlum	14C	59901	12/20/01
Ludlum	14C	59872	12/20/01
Radiation Alert	Inspector	5082	12/20/01
Radiation Alert	Inspector	5083	12/20/01
Eberline	E-520	2034	12/20/01
Eberline	E-520	2228	11/21/01
Eberline	E-520	2232	5/14/01
Eberline	RO-2	1751	12/20/01
Eberline	RO-2	1890	12/20/01
Eberline	RO-2	2092	11/21/01
Eberline	RO-2	1815	11/21/01
Eberline	RO-2	1834	11/21/01
Eberline	RO-2	1794	11/21/01
KAHL	FH40F3	2001058	11/21/01
Victoreen	190I	220	12/20/01
Victoreen	410	C290	5/14/01
Radiac	CDV-718	31165	12/20/01
Radiac	CDV-718	31136	12/20/01
Bicron	MicroAnalyst	B218U	12/20/01
Bicron	MicroAnalyst	B217U	12/20/01
Ludlum	19	123865	12/20/01
Ludlum	19	123897	12/20/01
Ludlum	19	41842	11/21/01
Xetex ARM	415BC	40731	12/20/01
Xetex ARM	415BC	36339	12/20/01
Xetex ARM	415BC	40856	12/20/01
Xetex ARM	415BC	37277	5/14/01

In house calibration of survey meters is performed every six months using a TechOps Model TO-733 calibrator containing Cs-137 wherein the exposure rate calculated for a specific distance is compared with the meter reading at that distance. $\pm 20\%$ is acceptable. The alarmrate meters are calibrated annually. Pancake probes are placed in the field back side facing the beam and checked for operation. MircoR meters are operationally tested only.

III. Technical Staffing and Training

10. Please provide a staffing plan, or complete a listing using the suggested format below, of the professional (technical) person-years of effort applied to the

agreement or radioactive material 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, LLW, U-mills, other. If these regulatory responsibilities are divided between offices, the table should be consolidated to include all personnel contributing to the radioactive materials program. Include all vacancies and identify all senior personnel assigned to monitor work of junior personnel. If consultants were used to carry out the program's radioactive materials responsibilities, include their efforts. The table heading should be:

RESPONSE:

<u>Name</u>	<u>Position</u>	<u>Area of Effort</u>	<u>FTE%</u>
David Turberville	Radiation Physicist II	RAM Compliance	81%
		NMX Compliance	2%
		PA Compliance	4%
		E-Response	3%
		Radiographer testing	10%
Myron Riley	Radiation Physicist II	RAM Compliance	66%
		NMX Compliance	5%
		NMX Registration	5%
		PA Compliance	4%
		Mamo Compliance	10%
		E-Response	3%
		Survey Meter Cal.	2%
RSO Duties	5%		
Jim McNees	Radiation Physicist III	RAM Compliance	45%
		NMX Registration	4%
		NMX Compliance	4%
		PA Compliance	3%
		Radon Activities	20%
		E-Response	4 %
Karl David Walter	Radiation Physicist III	RAM Licensing	60%
		PA Registration	20%
		Emergency Response	4%
		Administrative	16%
Bridget Stephens	Radiation Physicist I	RAM Licensing	70%
		PA Registration	15%
		Administrative (Training)	15%
Kirksey E. Whatley	Director ORC	RAM Licensing	15%
		RAM Inspection	12%

PA Reg/Inspection	2%
Emergency Response	8%
X-Ray	17%
SECC	4%
WIPP/SSEB Activities	2%
NORM	8%
Emelle	4%
Administration	28%

The following staff members, although not working in the RAM licensing or inspection sections, contribute significant time to the radioactive materials program throughout the year. Their names and an estimate of their time contributions are as follows:

Bradley Grinstead	Radiation Physicist III	Emergency Response	4%
Mike Cash	PH Engineer IV	Emergency Response WIPP/SSEB	60% 15%
Terry Williams	Radiation Physicist II	Emergency Response Environmental Monitoring WIPP	15% 50% 8%
Tonya Appleyard	Radiation Physicist II	Emergency Response	80%
Kenneth Thomas	Rad. Safety Spec.	Emergency Response	5%
Richard Glass	Rad. Safety Spec.	Emergency Response	4%
Curtis Franklin	Rad. Safety Spec.	Emergency Response	4%
Beverly Carswell	Rad. Safety Spec.	Emergency Response	4%
Robert Suell	Rad. Physicist I	Emergency Response RAM Inspection	4% 1%
Edrick Owens	Rad. Physicist I	Emergency Response RAM Inspection	4% 1%
John Swindall	Rad. Physicist I	Emergency Response RAM Inspection	4% 1 %
Mary Frazier	Secretary	Emergency Response	1%
Janette Moss	Secretary	Emergency Response	3%
Rita Ester	Secretary	Emergency Response	2%

11. Please provide a listing of all new professional personnel hired since the last review, indicate the degree(s) they received, if applicable, and additional training and years of experience in health physics, or other disciplines, if appropriate.

RESPONSE:

Bridget Stephens – BS (Licensing) 5-week HP Course Oak Ridge
Robert Suell – BS (X-Ray inspections) 5-week HP Course Oak Ridge
Edrick Owens - BS (X-Ray inspections) 5-week HP Course Oak Ridge
John Swindall - BS (X-Ray inspections) 5-week HP Course Oak Ridge
Vonya Boykin - BS (terminated)

Stephens, Suell, and Owens will have two years of experience in May 2002.

Swindall has one year of experience.

Bridget Stephens has attended the following training courses:

5-Week Health Physics Course	3/5-4/6/01
Transportation of RM	6/26-6/29/01
Licensing Practices & Procedures	9/10-9/14/01

Scheduled courses for Bridget Stephens:

Nuclear Medicine	March 2002
Teletherapy/Brachytherapy	March 2002
Industrial Radiography	August 2002
Inspection Procedures	September 2002

Myron Riley transferred from x-ray compliance to radioactive material compliance on December 18, 2000. Since March of 1997 he has received the following training;

Five Week Course - 3/1-4/4/97 - Oak Ridge, TN
Health Physics in Radiation Accidents - 3/16-20/98 - REAC/TS
Safety Aspects of Industrial Radiography - 5/8-12/00 - USNRC
Transportation of Radioactive Materials - 6/26-30/00 - USNRC
Diagnostic and Therapeutic Nuclear Medicine - 8/14-18/00 - USNRC
Inspecting for Performance Course - 6/19-21/01 - USNRC
Multi Agency Radiation Survey and Site Investigation - 6/26-28/01 - NETO
Licensing Practices and Procedures - 9/10-14/01 - USNRC

Scheduled Courses for 2002 for Myron Riley:

Teletherapy and Brachytherapy	- 3/11-15/02 - USNRC
Safety Aspects of Well Logging	- 4/22-26/02 - USNRC
Two Week Health Physics	- 10/21-11/1/02 - USNRC

12. Please list all professional staff who have not yet met the qualification requirements of license reviewer/materials inspection staff (for NRC, Inspection Manual Chapters 1246; for Agreement States, please describe your qualifications requirements for materials license reviewers and inspectors). For each, list the courses or equivalent training/experience they need to attend and a tentative schedule for completion of these requirements.

RESPONSE:

A. Inspection Staff:

James McNees and David Turberville are fully qualified.

Myron Riley has yet to attend the well logging course and has yet to be approved for well logging inspections.

Inspection staff are required to complete the 5-week Oak Ridge Health Physics Course and the NRC Inspection Procedures Course as well as NRC courses designed for specific licensee operations (i.e., nuclear medicine, radiography, well logging). See Policy Memo # 417 for training requirements.

B. Licensing Staff:

Licensing staff are expected to successfully complete the 5-Week Health Physics course taught at Oak Ridge and the NRC Licensing Procedures Course. In addition staff will, as time and funding permits, attend specialized NRC and other training courses related to specific areas such as industrial radiography, nuclear medicine, NORM, etc.

David Walter has completed all required training and most other available training courses.

Bridget Stephens completed the 5-Week HP Course in Oak Ridge in April 2001. She also completed the Licensing Procedures Course in September 2001. Ms. Stephens will attend the Nuclear Medicine and the Teletherapy/Brachytherapy Courses in Houston in March 2002. We have applied for her to attend the Industrial Radiography Course in New Orleans in August 2002 and the Inspection Procedures Course in Chattanooga in September 2002.

13. Please identify the technical staff who left the RCP/Regional DNMS program during this period.

RESPONSE:

Ron Pass (materials inspector) retired.
Vonya Boykin (x-ray inspector) was terminated.

14. List the vacant positions in each program, the length of time each position has been vacant, and a brief summary of efforts to fill the vacancy.

RESPONSE:

There currently exists one opening in the X-Ray program for a Radiation Physicist I position. This vacancy was created by the termination of a former employee.

IV. Technical Quality of Licensing Actions

15. 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. Also identify any new or amended licenses that now require emergency plans.

RESPONSE:

There have been no major, unusual, or complex licenses issued, amended, terminated or decommissioned during the past 4 years. There are no new licenses that require an emergency plan, and no major amendments to existing licenses that resulted in the licensee being required to submit an emergency plan.

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

RESPONSE:

- A. Upon request via an amendment, the Agency has approved the receipt and possession of HDR sources in excess of the individual source possession limits specified on the license. However, the Agency stipulates that the source must be at, or below, the specified maximum activity before it is loaded into the HDR. An example of the license condition follows:

"The licensee is authorized to receive and possess sealed sources of Iridium 192 as described in Subitem 8.L. where the radioactivity exceeds the maximum amount of radioactivity specified in Subitem 9.L. of the license, provided:

- A. *Such possession does not exceed the quantity per source specified in Subitem 9.L. by more than 20%.*
- B. *Records of the licensee show that not more than the maximum amount of radioactivity per source specified in Subitem 9.L. was ordered from the supplier or transferor of the radioactive material.*

C. No source greater than 10 curies will be installed in the device listed in Subitem 10.L."

B. During the period from November 3, 2000 through August 24, 2001, the Agency allowed K-Lee Processing in Hueytown, Alabama to "possess" a TN Technologies, Inc. model 5191 source holder containing less than 1,000 millicuries of cesium 137. This general licensed source holder was illegally transported to Alabama from Pennsylvania. K-Lee was allowed to secure the device on their property, without a license, until the investigation was completed, and arrangements could be made to have the source properly disposed.

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

RESPONSE:

A Policy was added to allow licensees to request an amendment to their license which would allow them to release certain patients who exceed the release criteria of Rule 420-3-26-.07(29).

The Agency is using the CRCPD Suggested State Regulation Part N when writing NORM licenses.

18. **For NRC Regions**, identify by licensee name, license number and type, any renewal applications that have been pending for one year or more. Please indicate why these reviews have been delayed.

V. Responses to Incidents and Allegations

19. For Agreement States, please provide a list of the reportable incidents (i.e., medical misadministrations, overexposures, lost and abandoned sources, incidents requiring 24 hour or less notification, etc. See Handbook on Nuclear Material Event Reporting in Agreement States for additional guidance.) that occurred during the review period. Information included in previous submittals to NRC need not be repeated (i.e., those submitted under OMB clearance number 3150-0178, Nuclear Material Events Database). The list should be in the following format:

<u>Licensee Name</u>	<u>License #</u>	<u>Date of Incident/Report</u>	<u>Type of Incident</u>
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RESPONSE:

To the best of our knowledge all such events involving AEA material requiring 24 hour or less notification that occurred during the reporting period have been previously submitted to NRC via the Nuclear Material Events Database

20. During this review period, did any incidents occur that involved equipment or source failure or approved operating procedures that were deficient? If so, how and when were other State/NRC licensees who might be affected notified? For States, was timely notification made to NRC? For Regions, was an appropriate and timely PN generated?

RESPONSE:

See NMED item numbers AL980011, AL000008, AL000011, AL000033, AL010011, & AL02000-10 Copies of which are enclosed.

21. For Agreement States, for incidents involving failure of equipment or sources, was information on the incident provided to the agency responsible for evaluation of the device for an assessment of possible generic design deficiency? Please provide details for each case.

RESPONSE:

In incident AL980011, NRC Regions I & II and the State of Kentucky were notified. In incident AL02009-10, concerns over the environments for which this Ohmart device is approved are being sent to both Kentucky and Ohio.

22. Identify any changes to your procedures for handling allegations that occurred during the period of this review.

RESPONSE:

The procedures dated January 5, 1994 remain in effect.

VI. General

23. Please prepare a summary of the status of the State's or Region's actions taken in response to the comments and recommendations following the last review. Describe the results of any program audits completed during the review period.

RESPONSE:

In Richard Bangart's letter of May 27, 1998, one recommendation and three suggestions for improvement were made. Following is a summary of actions taken in response that recommendation and those suggestions:

"Recommendation: Regarding reporting events to NRC." Reporting events to NRC was assigned to one staff member. The recommendation was made for not having reported one event within the 30 day period, not for not reporting. To the knowledge of management, all reportable events have been properly reported to NRC in a timely manner and this

recommendation has been accepted and implemented. The question is asked whenever there is an event, "Has this been reported to NRC?"

"Suggestion: Regarding increasing the number of reciprocity inspections."

This suggestion, made by NRC, has always been one of the goals of the staff of this office. Much of the reciprocity that takes place in Alabama involves companies who come into the state for very short periods (i.e., overnight). Also much of the industrial work is performed in the Mobile Metropolitan area, which is a three hour drive from Montgomery. Another factor to consider is the fact that reciprocity in Alabama is limited to thirty days in a calendar year. The staff has only a thirty day period to make an inspection, unlike NRC and other states that have 180 day reciprocity periods. Staff has made efforts to inspect reciprocity general licensees whenever possible and will continue to do so. This remains a goal of this office.

"Suggestion: Regarding accompanying material inspectors." This suggestion has been implemented.

"Suggestion: Regarding procedures during termination of certain licenses." Licensing staff had always made this a policy of this office. The one incident in question on the last IMPEP review involved a disagreement between the NRC reviewer and staff. We accepted the comments from NRC and committed to continue to follow the recommendation. To management's knowledge, this recommendation was and continues to be, the policy of this office.

24. **For NRC Regions**, briefly describe any recent efforts, or future plans, on your part to: (1) improve the safety performance of licensees operating below acceptable levels for ensuring public health and protection, (2) increase the public confidence in your program, (3) increase your effectiveness, and efficiency, or (4) reduce any unnecessary regulatory burden for your stakeholders.
25. Provide a brief description of your program's strengths and weaknesses. These strengths and weaknesses should be supported by examples of successes, problems or difficulties which occurred during this review period.

RESPONSE:

Strengths:

1. Experience and training of staff. The turn-over rate in the Office of radiation Control has been very low for many years. This has led to having a staff who have many years of practical health physics experience. Senior staff in the Office of Radiation Control are competent in handling a wide variety of health physics problems. Management has recognized the importance of training staff and

staff have attended almost all available training courses offered. As evidenced in NRC training classes, staff of the Office of Radiation Control have demonstrated a commitment to training that will enable them to perform at a higher level. James (Jim) McNees is certified in comprehensive health physics.

2. Professionalism of staff. Management has encouraged the staff to become active in the profession of health physics on a state and national basis, and staff has responded. Members of the staff have been very active in the work of CRCPD having served on the Board of Directors, numerous committees, and with the OAS. Jim McNees rotated off as treasurer of CRCPD in December of 2001. David Walter serves as Chair of the CRCPD and OAS activities associated with nuclear medicine (Part 35). David has spoken to professional organizations in the US and Canada on the subject of 10 CFR Part 35. Staff has hosted several national committee meetings. David Turberville has been active in CRCPD activities associated with radiography. Several staff members (Brad Grinstead, Mike Cash, Beverly Carswell, and Kirk Whatley) serve on national and regional committees involving x-ray, emergency planning, transportation, waste disposal, radon, and emergency planning.

Associated with this area is the fact that the entire staff is always willing to accept whatever challenge/opportunity that comes up even outside their area of responsibility or even expertise - whether computer programming, testing radiographers, etc.

3. Management support. Upper level management has been very supportive in operations of the Office of Radiation Control by the hiring of additional staff, providing financial and other support, and being supportive of training opportunities.
4. Ability to communicate with staff throughout the state. All professional staff members are equipped with Southern Link radios. This enables the staff to be able to communicate with any other staff member by radio or telephone anywhere in Alabama, the State of Georgia, all of North Florida, and much of Mississippi. Communication can be with any individual staff member or the entire staff at once. with these radios any staff member can communicate with State Troopers, Emergency Management staff (counties and state), Georgia Emergency management staff, and others. These radios have been used many times by inspectors in the field to communicate with the office or staff in other cities. In addition, all professional staff members are provided pagers.

Weaknesses:

1. Basis of funding for program: The primary source of funds for the operations of the Office of Radiation Control remains the fee system which establishes fees equal to 75% of fees charged by NRC for similar specific licenses in Alabama. There is no fee system for any other registrant category nor are fees charged for any other service provided by the Office of Radiation Control. This creates an inequity as well as making the fee system totally responsive to NRC fee fluctuations from year to year.
2. Lack of opportunities for graduate training in health physics. Since the beginning of the Radiation Control Program in Alabama, there has been at least one staff member who has a masters degree in health physics. Although, such a degree is not required to serve in any position, staff who have such degrees have been able to provide much training and understanding to other staff members. Within the next few years there will be no staff member with such a degree. The remaining staff are very capable of fulfilling all responsibilities and duties. However, there will be a void in this area that is a concern. Advanced degree opportunities were at one time a real plus to this program and would benefit the State of Alabama greatly if re-instituted.

B. NON-COMMON PERFORMANCE INDICATORS

I. Legislation and Program Elements Required for Compatibility

26. Please list all currently effective legislation that affects the radiation control program (RCP).

RESPONSE:

Act No. 582 of the Regular Session, 1963, of State Legislature, established the State Board of Health as the state radiation control agency.

Act No. 82-328 of the Regular Session, 1982, of State Legislature established the State of Alabama as a member of the Southeast Compact Commission for the Management of Low-Level Radioactive Waste. In that legislation, the Director of the Division of Radiological Health (Office of Radiation Control) was designated as one of two Commissioners representing the State of Alabama on matters before the Commission.

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

RESPONSE:

Activities of the Office of Radiation Control (not the rules) were reviewed by the Oversight Committee of the State Legislature in 2001. State Legislature passed legislation (has been signed by Governor) in 2002 (current session) to continue the program. Next review is due in 2005.

- 28. Please complete the enclosed table based on NRC chronology of amendments. Identify those that have not been adopted by the State as detailed in the current RATS form, explain why they were not adopted, and discuss any actions being taken to adopt them. Identify the regulations that the State has adopted through legally binding requirements other than regulations.

RESPONSE: See enclosed table. With the addition of changes relating to respiratory protection, which will be approved at the April 17, 2002, meeting of the State Committee of Public Health, Alabama Regulations will be compatible with NRC rules.

- 29. 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.

RESPONSE:

With the approval of the rule changes by the State Committee of Health on April 17, 2002, (changes deal with respiratory protection), Alabama Radiation Protection Rules will be compatible with those of NRC.

II. Sealed Source and Device Program

- 30. Prepare a table listing new and revised SS&D registrations of sealed sources and devices issued during the review period. The table heading should be:

<u>SS&D Registry Number</u>	<u>Manufacturer, Distributor or Custom User</u>	<u>Product Type or Use</u>	<u>Date Issued</u>	<u>Type of Action</u>
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RESPONSE:

The Agency has not performed any sealed source or device reviews.

- 31. What guides, standards and procedures are used to evaluate registry applications?

RESPONSE:

Not applicable at this time. However, we have, and would use, guidance document NUREG-1556, Volume 3, and Standard Review Plan NUREG-1550.

32. Please include information on the following questions in Section A, as they apply to the Sealed Source and Device Program:

Technical Staffing and Training - A.III.10-14
Technical Quality of Licensing Actions - A.IV.15-18
Responses to Incidents and Allegations - A.V.19-22

RESPONSE:

Not applicable to current program.

- III. Low-Level Waste Program

33. Please include information on the following questions in Section A, as they apply to the Low-level Waste Program:

Status of Materials Inspection Program - A.I.1-3, A.I.5
Technical Quality of Inspections - A.II.6-9
Technical Staffing and Training - A.III.10-14
Technical Quality of Licensing Actions - A.IV.15-18
Responses to Incidents and Allegations - A.V.19-22

RESPONSE:

Not applicable to current program. No disposal site.

- IV. Uranium Mill Program

34. Please include information on the following questions in Section A, as they apply to the Uranium Mill Program:

Status of Materials Inspection Program - A.I.1-3, A.I.5
Technical Quality of Inspections - A.II.6-9
Technical Staffing and Training - A.III.10-14
Technical Quality of Licensing Actions - A.IV.15-18
Responses to Incidents and Allegations - A.V.19-22

RESPONSE:

Not applicable to current program.

RESPONSE TO FOLLOWING TABLE 28 QUESTIONS:

Please refer to letter dated October 1, 2001, from Frederick C. Combs and attached "State Regulation Status". With the exception of the adoption of 64 FR 54543 and 64 FR 55524, "Respiratory Protection and Controls to Restrict Internal Exposure - Part 20", State rules are compatible with those of NRC. Rules regarding respiratory protection (64 FR 54543 and 64 FR 55524) are currently before the State Committee of Public Health for consideration. These rule changes will be adopted at the Committee of public health meeting on April 17, 2002. (Frederick Combs letter can be found at www.hsr.dorml.gov/nrc/special/regs/alregs.pdf).

TABLE FOR QUESTION 28.

10 CFR RULE	DATE DUE	DATE ADOPTED OR EFFECTIVE	OR	
			CURRENT STATUS	EXPECTED ADOPTION
Any amendment due prior to 1993. Identify each regulation (refer to the Chronology of Amendments)				
Emergency Planning; Parts 30, 40, 70	4/7/93			
Standards for Protection Against Radiation; Part 20	1/1/94			
Safety Requirements for Radiographic Equipment; Part 34	1/10/94			
Notification of Incidents; Parts 20, 30, 31, 34, 39, 40, 70	10/15/94			
Quality Management Program and Misadministrations; Part 35	1/27/95			
Licensing and Radiation Safety Requirements for Irradiators; Part 36	7/1/96			

10 CFR RULE	DATE DUE	DATE ADOPTED OR EFFECTIVE	OR	
			CURRENT STATUS	EXPECTED ADOPTION
Definition of Land Disposal and Waste Site QA Program; Part 61	7/22/96			
Decommissioning Recordkeeping: Documentation Additions; Parts 30, 40, 70	10/25/96			
Uranium Mill Tailings: Conforming to EPA Standards; Part 40	7/1/97			
Timeliness in Decommissioning Parts 30, 40, 70	8/15/97			
Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use; Parts 30, 32, 35	1/1/98			
Frequency of Medical Examinations for Use of Respiratory Protection Equipment	3/13/98			
Low-Level Waste Shipment Manifest Information and Reporting	3/1/98			
Performance Requirements for Radiography Equipment	6/30/98			
Radiation Protection Requirements: Amended Definitions and Criteria	8/14/98			
Medical Administration of Radiation and Radioactive Materials.	10/20/98			

10 CFR RULE	DATE DUE	DATE ADOPTED OR EFFECTIVE	OR	
			CURRENT STATUS	EXPECTED ADOPTION
Clarification of Decommissioning Funding Requirements	11/24/98			
10 CFR Part 71: Compatibility with the International Atomic Energy Agency	4/1/99			
Termination or Transfer of Licensed Activities: Recordkeeping Requirements.	6/16/99			
Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act	1/9/2000			
Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State	2/27/2000			
Criteria for the Release of Individuals Administered Radioactive Material	5/29/2000			
Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiography Operations; Final Rule	6/27/2000			
Radiological Criteria for License Termination	8/20/2000			
Exempt Distribution of a Radioactive Drug Containing One Microcurie of Carbon-14 Urea	1/2/2001			

10 CFR RULE	DATE DUE	DATE ADOPTED OR EFFECTIVE	OR	
			CURRENT STATUS	EXPECTED ADOPTION
Deliberate Misconduct by Unlicensed Persons	2/12/2001			
Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations; Clarifying Amendments and Corrections	7/9/2001			
Minor Corrections, Clarifying Changes, and a Minor Policy Change	10/26/2001			
Transfer for Disposal and Manifest; Minor Technical Conforming Amendments	11/20/2001			
Radiological Criteria for License Termination of Uranium Recovery Facilities	6/11/2002			
Respiratory Protection and Controls to Restrict Internal Exposures	2/2/2003		Proposed changes to rules are currently before the State Committee of Public Health for consideration. Draft changes have been submitted to NRC for review. Will be adopted at April 17, 2002, meeting of State Committee.	
Energy Compensation Sources for Well Logging and Other Regulatory Clarifications	5/17/03		Have not yet considered.	
New Dosimetry Technology	1/8/04		Have not yet considered.	