

DATED: APRIL 28, 1997

SIGNED BY: HUGH L. THOMPSON, JR.

Mr. J. Dale Givens, Secretary  
Department of Environmental Quality  
P. O. Box 82231  
Baton Rouge, LA 70884-2231

Dear Mr. Givens:

On April 10, 1997, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Louisiana Agreement State Program. The MRB found the Louisiana program adequate to protect public health and safety and compatible with NRC's program.

Section 5, page 19, of the enclosed final report presents the IMPEP team's recommendations. Note that there is one additional recommendation that was identified at the MRB to implement the requirements of the "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites" through legal binding requirements until the Louisiana draft regulations have been promulgated. Our understanding is that by conference call during the MRB meeting, W. H. Spell, Administrator, Radiation Protection Division, committed to implement this recommendation, as necessary. We have received your letter dated February 28, 1997, and Mr. Spell's letter dated March 4, 1997, and appreciate the positive actions that you and your staff have taken and are continuing to implement with regard to our comments. No response to this letter is necessary.

Based on the results of the current IMPEP review, the next review will be scheduled in four years, unless program concerns develop that require an earlier evaluation.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review and your support of the Radiation Control Program. I look forward to working with you in the future.

Sincerely, */RA/*

Hugh L. Thompson, Jr.  
Deputy Executive Director  
for Regulatory Programs

Enclosure:  
As stated

cc: H. Bohlinger, Deputy Secretary  
Department of Environmental Quality

G. Von Bodungen, Assistant Secretary  
Office of Air Quality and Radiation Protection

R. Wascom, Deputy Assistant Secretary  
Office of Air Quality and Radiation Protection

W. H. Spell, Administrator  
Radiation Protection Division

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF LOUISIANA AGREEMENT STATE PROGRAM

OCTOBER 7-11, 1996

# **FINAL REPORT**

U.S. Nuclear Regulatory Commission

## 1.0 INTRODUCTION

This report presents the results of the review of the Louisiana radiation control program. The review was conducted during the period October 7-11, 1996, by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Georgia. Team members are identified in Appendix A. The review was conducted in accordance with the "Interim Implementation of the Integrated Materials Performance Evaluation Program Pending Final Commission Approval of the Statement of Principles and Policy for the Agreement State Program and the Policy Statement on Adequacy and Compatibility of Agreement State Programs," published in the Federal Register on October 25, 1995, and the September 12, 1995, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period September 4, 1993, to October 11, 1996, were discussed with Louisiana management on October 11, 1996.

A draft of this report was issued to Louisiana for factual comment on February 14, 1997. The State of Louisiana responded in letters dated February 28, 1997 and March 4, 1997 (attached). The State's comments were incorporated into the final report. The Management Review Board (MRB) met on April 10, 1997, to consider the proposed final report. Based on the existing NRC compatibility policy and the IMPEP evaluation criteria, the review team recommended that Louisiana's performance with respect to the indicator, Legislation and Regulations, be found unsatisfactory. The compatibility findings for the Louisiana program were re-evaluated and revised by the MRB based on the draft of Louisiana's "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites" regulation. The MRB recommended that the State implement the requirements in the draft Louisiana's "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites" regulation through the legal binding requirements on a case-by-case basis until the regulation is promulgated as final. The MRB final recommendation for Legislation and Regulations is satisfactory with recommendations for improvement. The MRB considered and concurred in the team's overall recommendation and found the Louisiana radiation control program was adequate to protect public health and safety and compatible with NRC's program.

The Louisiana Office of Air Quality and Radiation Protection, within the Louisiana Department of Environmental Quality, is the agency that regulates environmental radiation issues and radiation hazards. The Secretary of this department is appointed by, and reports directly to, the Governor. Within the Office of Air Quality and Radiation Protection, headed by an Assistant Secretary who is also appointed by the governor and who reports to the secretary, the Radiation Protection Division (RPD) administers the State's radiation protection program. The RPD organizational charts are included as Appendix B. The Louisiana program regulated 511 specific licenses at the time of the review. In addition to radioactive materials, the Division is responsible for control of machine-produced radiation, environmental surveillance, emergency planning and response, and radon control. 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 Louisiana.

In preparation for the review, a questionnaire addressing the common and non-common indicators was sent to the State on August 8, 1996.

Louisiana provided its response to the questionnaire on September 16, 1996. A copy of that response is included as Appendix C to this report.

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

Section 2 below discusses the State's actions in response to recommendations made following the previous review. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-common indicators, and Section 5 summarizes the review team's findings and recommendations.

## 2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

The previous routine review concluded on September 3, 1993, and the results were transmitted to Mr. Kai David Midboe, then Secretary of the Department of Environmental Quality on April 11, 1994. Findings of adequacy and compatibility were withheld because of significant deficiencies in the Indicator, Adequacy of Product Evaluations and the fact that certain regulations were not promulgated within the 3-year timeframe recommended by NRC. NRC conducted a follow up review of the program on February 21-24, 1995, to evaluate the effectiveness of the State's actions to address the recommendations from the 1993 review, and to assess the current status of the State's program. The results of this follow up review were transmitted to Mr. William A. Kucharski, a later Secretary, Department of Environmental Quality on May 9, 1995. The Secretary was informed that the NRC staff determined that at that time, the Louisiana program for regulation of agreement materials was adequate to protect public health and safety, and compatible with the regulatory program of the NRC, since all of the recommendations were determined to have been satisfactorily resolved.

## 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 Staffing and Training, (3) Technical Quality of Licensing Actions, (4) Technical Quality of Inspections, and (5) Response to Incidents and Allegations.

### 3.1 Status of Materials Inspection Program

The team focused on four factors in reviewing this indicator: inspection frequency, overdue inspections, initial inspection of new licenses, and timely dispatch of inspection findings to licensees. This evaluation is based on Louisiana's questionnaire responses to this indicator, from data gathered independently from the State's licensing

and inspection data tracking system, the examination of licensing and inspection casework files, and interviews with managers and staff.

Review of the State's inspection priorities showed that the State's inspection frequencies for various types, or groups, of licenses are at least as frequent as similar license types, or groups, listed in the NRC Inspection Manual Chapter 2800 (IMC 2800) schedule of frequencies. Inspection frequencies under the State's system range from one year to five year intervals. The State requires more frequent inspections in some license categories to maintain consistency with X-ray inspections. Some medical facilities are inspected on a two-year frequency when compared with an NRC three-year or five-year frequency; broad academic licenses have a one-year frequency compared with an NRC three-year frequency; and portable gauges have a four-year frequency compared with the NRC's five-year frequency. Level and density gauge licensees who participate in the State's self-inspection program are extended to a five-year inspection cycle. The inspection frequencies of licenses selected for license and inspection file reviews were compared with the frequencies listed in the State's data system and were consistent with the State's system and at least as frequent as similar license types under the IMC 2800 system.

In their response to the questionnaire, Louisiana indicated that, as of October 12, 1996, only one core inspection identified in IMC 2800 was overdue by more than 25 percent of the NRC frequency. This number is well within the 10 percent criterion for overdue inspections of Management Directive 5.6. This licensee was inspected on September 27, 1996.

One new licensee was inspected at nine months rather than at a six-month interval. One initial inspection was also found to be overdue but a memo was in the file indicating that the inspection period had been extended because the licensee had not received radioactive material. One other initial inspection of a new licensee was performed at a period greater than the recommended six month period. During the review, it appeared that this license was overdue by approximately 11 months. Subsequent to the review, the State has determined that an earlier inspection by a regional inspector had been performed. The inspection was performed at 8 months rather than 6 months.

Discussions with management and staff were conducted to determine how inspections are assigned and entered into the system. The administrative staff enters data on a monthly basis. It is noted that the State uses a six-month interval for generating a printout. Quality checks on the data are performed by inspectors and management using the updated printout. Once reviewed, the computer printout is used for inspection planning.

The timeliness of the issuance of inspection findings was evaluated during the inspection file review. Twenty-one files were examined. They covered approximately 50 inspections performed during the review period. Most inspection correspondence was sent to the licensee within 30 days after an inspection. Inspections performed from late 1994 to early 1996 had noticeably longer times between the inspection and the issuance of the inspection report or Confirmatory Orders. Several cases spanned a 10-month interval. One action was not issued, at the direction of the Assistant Secretary, due to the long delay between the inspection and the enforcement action. This licensee was promptly reinspected.

In early 1996, the long period of time between inspection and enforcement action reversed. The State identified several problems in coordinating its inspection and enforcement programs and corrected them. Inspection and enforcement actions are now being processed in a timely manner.

Louisiana does not collect data on reciprocity inspections in a manner similar to NRC. A direct statistical correlation cannot be made to the suggested IMPEP criteria. The State reported in their response that 901 requests for reciprocity were received during the review period. In response to the draft report, the State reported that a further review of the Division's database on reciprocity inspections during the review period indicated a total of 855 reciprocity notifications, of which 249 were Priority 1, 2 or 3. These 249 notifications represented 23 different companies, some of which have Louisiana licenses. In addition, a Texas industrial radiography licensee also having a Louisiana license, comprised 92 of the 249 notifications (~37%). The State reported the reciprocity database was originally written in a manner that allowed overwriting of the previous inspection performance data for a particular year. The State believes that this occurred because it was not anticipated that more than one reciprocity inspection would be performed during the year. This resulted in a licensee having only one reported (database) inspection in any year. The numbers previously reported by the review team were lower than the actual number of inspections performed by the Division for a particular year and also lower than the total for the three-year review period. As a result of the State's additional review, a total of 10 inspections of 23 licensees were retrieved from the database for the review period of July, 1993 through June, 1996.

Based on the new information submitted by the State, approximately 43% of the licensees entering the State were inspected at least once. The State noted that actual inspections were more than 10, indicating a larger percentage of licensees being inspected during reciprocity visits. The State indicated that their familiarity with specific licensees in addition to compensating measures such as annual, or more frequent, inspections by other regulatory authorities and information sharing between the agencies provide sufficient assurance for safety.

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

### 3.2 Technical Staffing and Training

Issues central to the evaluation of this indicator include the radioactive materials program staffing level, technical qualifications of the staff, training, and staff turnover. To evaluate these issues, the review team examined the State's questionnaire responses relative to this indicator, interviewed RPD management and staff, and considered any possible workload backlogs. The RPD organization chart shows that the Division was funded for 44 persons at the time of the review.

The Compliance Branch consists of the Surveillance Section (8 positions), the Inspection & Quality Assurance Section (5 positions), and the Enforcement Section (7 positions). The Surveillance Section personnel are located at seven RPD Regional Offices throughout the State, and the personnel perform both materials inspections and x-ray inspections. The Inspection & Quality Assurance Section personnel are

located in Baton Rouge, and they also perform both materials and x-ray inspections. The personnel (15) utilized for materials inspections were all determined to be qualified and trained in health physics and inspection procedures. These inspectors have completed the core courses for the types of licenses they are qualified to inspect. The team did not identify any inspection backlogs.

The Regulatory Branch consists of a Licensing & Registration Section (9 positions), and an Emergency Planning and Response Section (6 positions). All of the materials licensing functions and the sealed source and device evaluations are performed by 3 persons in the Licensing & Registration Section. The Licensing Coordinator performs most of the materials licensing actions, and was determined to have many years experience in that function in addition to the NRC licensing training. Two other staff persons and the Section Manager, have also been trained in Licensing Practices. In addition, a Nuclear Engineer attended the NRC Sealed Source & Device Workshop in September of 1995. The team did not identify any licensing or device evaluation backlogs during the review. Additional discussion of Sealed Source & Device (SS&D) personnel training is covered in Section 4.2.2.

The RPD has established qualifications for the technical positions of Environmental Radiation Specialist (ERS) I, ERS II, and ERS III. Applicants at the entry level (ERS 1) are required to have a baccalaureate degree and are assigned duties in the x-ray program until additional training is received in health physics, nuclear medicine uses, materials licensing, inspection procedures, industrial radiography, well logging, and emergency response. After sufficient training and experience, the ERS I's are eligible for promotion and for assignment to materials licensing and/or inspection duties. Staff are assigned increasingly complex licensing duties under the direction of senior staff, and accompany experienced inspectors during increasingly complex compliance inspections. Staff are required to demonstrate competence during accompaniments by the supervisor. This information was verified through discussions with managers and staff, review of the questionnaire response, and review of the position descriptions. The team determined that all staff utilized for the agreement materials program were technically qualified by evidence of their training and experience; however, additional training for the SS&D program is discussed under Section 4.2.2.

The RPD Administrator reported that several persons (12) had left the Division since the 1993 review, many left for higher paying jobs, or to return to graduate school. Retaining qualified personnel was reported as a continuing problem. The Division, however, has been able to recruit qualified people and provide training as needed to maintain the workload in the agreement materials area. The organization chart showed 2 vacancies in the Emergency Response Section, and 1 vacant ERS III position and a vacant Coordinator position in the Inspection & Quality Assurance Section. The Coordinator's position duties are currently being fulfilled with an ERS III person. The State has demonstrated a willingness to provide training for their staff and to shift qualified personnel into the vacant positions in order to maintain current workload in the agreement materials area.

Based on the training that program personnel have taken during the review period, the State appears supportive of continued staff training, and management demonstrated a commitment to staff training during the

review. However, the State has concerns as to the impact of NRC's change in policy for funding State training will have on their program.

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

### 3.3 Technical Quality of Licensing Actions

The review team examined completed licenses and casework for 60 license actions in 36 specific license files, representing the work of two license reviewers. The license reviewers and supervisor were interviewed when needed to supply additional information regarding licensing decisions or file contents.

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

The license casework was selected to provide a representative sample of licensing actions which had been completed in the review period and to include work by all reviewers. The sampling included 26 of the State's major licenses and included the following types: source and device manufacturing and distribution, industrial radiography (temporary and fixed job sites), mobile nuclear medicine, teletherapy, academic and medical broad scope, and nuclear pharmacy. Licensing actions reviewed included 2 new, 16 renewals, 38 amendments, and 4 terminations. A list of these licenses with case specific comments can be found in Appendix D.

In general, the review team found that the licensing actions were thorough, complete, consistent, of acceptable or higher quality, and with health and safety issues properly addressed. Special license tie-down conditions were stated clearly, backed by information contained in the file, and inspectable. The nine exemptions identified by the State in the responses to the questionnaire were reviewed for this review period. All of them had valid justifications, including a State analysis to grant an exemption for pipeliner licensees who requested the exemption. Three of the exemptions were granted by letter and the six pipeliner exemptions were granted by a special license condition. The licensee's compliance history was taken into account when reviewing renewal applications as determined from documentation in the license files and/or discussions with the license reviewers.

The review team found that terminated licensing actions were well documented, showing appropriate transfer records and survey records. However, the licensee was not always issued a letter stating that the site could be released for unrestricted use if the site use had involved loose material with a half life of greater than 10 days. The team

recommends that the State adopt a policy of issuing unrestricted release letters in all cases where loose material has been used, and before the license is terminated. The review team found that the State did not have any problem contaminated sites at this time.

The State currently utilizes a standard license condition on broad licenses and other licenses with multiple locations of use of material (multiple sites) that does not differentiate between what radioactive material is authorized at each different site or location of use. This condition could allow all authorized material on the license to be used at all sites listed, and which was not always the intent of the license application reviewer. The State is in the process of amending Condition 1 of licenses which authorize multiple sites of use (use locations). The team recommends that each location of use on multiple site licenses be revised by license condition to specify the material authorized for each different location of use or site.

The State license reviewers acknowledged that licensees have not been notified of the need to file for reciprocity on sites which are exclusive federal jurisdiction according to All Agreement States Letter SP-96-022. Licenses which allow for temporary job sites have not been amended to include a requirement to file for reciprocity when on sites which are exclusive federal jurisdiction. The review team recommends that all licensees be notified according to the All Agreement States Letter SP-96-022 which requests licensees to file for reciprocity when performing work under exclusive federal jurisdiction. Licenses which allow for temporary job sites should be amended to state that a reciprocity request will be filed when conducting work under exclusive federal jurisdiction.

Licenses were renewed on varying frequencies which generally corresponded to the inspection frequency. The longest period for renewal was five years and the shortest period was two years. Licensees are tied down to previously submitted applications and supporting documentation which is no older than seven years. An entirely new application is required at least every seven years to maintain the most current information in the license file.

The license reviewer passes each licensing action up through the supervisory chain for review. All licensing actions are signed by the Assistant Secretary of the Office of Air Quality and Radiation Protection.

The review team found that the current staff is well trained and experienced in a broad range of licensing activities. The casework was reviewed for adequacy and consistency with the NRC procedures. The State does not have official, written administrative procedures for licensing reviews. They follow their licensing guides during the review process to ensure that licensees submit the information necessary to support the license. The licensing guides were very similar to the NRC guides. Based on the review of license files and discussions with the staff, the review team does not believe that written administrative procedures are necessary.

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

### 3.4 Technical Quality of Inspections

The team reviewed the inspection reports, enforcement documentation, and the database information for more than 50 inspections conducted during the review period. The casework included all but four of the State's materials inspectors. The inspectors not included in the sampling are the newest members of the staff and are not yet fully qualified. The review covered a sampling of the high priority categories of license types as follows: five industrial radiography, five medical, one nuclear pharmacy, one broad medical, one broad academic, one academic, one well logging, and one portable gauge, and five reciprocity inspections. Appendix E provides a list of the inspection cases reviewed with case-specific comments.

In addition, several spot checks were performed on the files to verify proper inspection frequencies and that enforcement correspondence was being maintained in a consistent manner. In almost every case the files selected for review were determined to have the proper inspection frequency. The review of inspection and licensing files was coordinated during the review. This provided some insight into how the State coordinates inspection findings with licensing actions.

The inspection procedures and techniques utilized by the State were reviewed and determined to be consistent with the inspection guidance provided in IMC 2800. The inspection report forms were found to be consistent with the types of information and data collected under IMC 2800. The report forms provided documentation of inspection findings in a consistent manner and in accordance with State policies and internal procedures. The State uses separate inspection report forms for various classes of license types, such as medical, portable gauges, fixed gauges, industrial radiography, accelerators, irradiators, gas chromatographs, broad licenses, and service type licenses. The inspection form provides documentation of licensee and radiation safety organization, scope of the licensee's program, material uses, procedures, leak tests, surveys, instrumentation, dosimetry, incidents, interviews with staff, confirmatory surveys, items of noncompliance, and exit interviews. The inspection form is used to create a narrative report of the inspection.

The review team found narrative inspection reports contained accurate information and met the State's requirements. The narrative report provides a brief, clear, discussion of the inspection and relevant findings. The reports are sufficiently detailed to support escalated enforcement actions. The State's enforcement letters are formal in style, detail and language. The State uses a tracking system to follow enforcement actions. This system was found to be up-to-date and was used to verify the status of pending enforcement actions and in resolving questions regarding missing documentation in the license file.

Most files contained complete inspection findings and related enforcement correspondence. However, the team noted in several cases that certain documents related to inspections or related enforcement documentation were not in the license file. The staff was generally able to locate missing documents for selected files within a short time, but not in all cases as documented in the inspection casework listing, Appendix E. From a "performance" standpoint, the team believes that better quality control is needed to assure that official documentation concerning inspection and enforcement is maintained in the official file folder. The review team suggests that the State re-evaluate their

document control system, and take appropriate measures to assure that files are maintained, complete, and up-to-date.

Three inspector accompaniments were performed by a review team member during the period of September 23-24, 1996. Two inspectors were accompanied in Shreveport, Louisiana area and one in Baton Rouge, Louisiana. The accompaniments in Shreveport involved two fixed radiographic facilities and one field radiography operation. These accompaniments are described in Appendix E. Other inspectors have been accompanied during previous reviews.

During accompaniments, the Louisiana inspectors demonstrated appropriate inspection techniques and knowledge of the State's regulations. The portable instruments used during the inspector accompaniments were observed to be operational and calibrated. The inspectors were observed to have TLD badges, an "Escort" badge, a direct reading dosimeter and alarming rate meter on their person during the inspections. The inspectors were well prepared and thoroughly knowledgeable of the licensees' radiation safety programs. Overall, the technical performance of the inspectors was exceptional. Their inspections conformed to State guidance and were more than adequate in scope and detail to assess radiological health and safety at the inspected facilities.

In response to the questionnaire, the State reported that nine inspectors were accompanied by supervisors during the review period. Based on a review of approximately 60 records, the State appears to have a well organized supervisory accompaniment program. The evaluation forms for each accompaniment were reviewed. The evaluations critically assessed the inspector's ability to conduct inspections of specific types of licensees as specifically indicated when an inspector is qualified to perform specific types of unaccompanied inspections. Supervisors routinely accompany fully trained inspectors on an annual basis.

It was noted that the State has a variety of portable instruments for routine confirmatory surveys and for use during incidents and emergency conditions. The State has sufficient GM tubes, pancake probes, one inch NaI detectors, micro-R meters, and high range instruments. A detector with an alpha scintillator is available in the Baton Rouge office for use by regional inspectors. Each inspector is provided a direct reading dosimeter, a TLD badge, an "Escort" badge, and an alarming rate meter. Portable instruments maintained in the Baton Rouge office were also observed to be calibrated. Program staff explained that instruments are calibrated at least on an annual basis. The State uses a commercial calibration and repair service.

It was found that the State performs both announced and unannounced inspections of materials licensees. Inspections are weighted toward the unannounced type. The State has offices distributed around the State. There was no geographical bias noted in the inspection program. There appeared to be no difference in the quality of inspections between the regional offices or between the regions and the main office in Baton Rouge. There appeared to be no significant difference in inspection frequency, quality or violations discovered between the samples of announced and unannounced inspections that were reviewed.

Inspectors sign all routine enforcement correspondence. All of the inspection results and routine enforcement letters were verified as

having been reviewed and signed by the supervisor before issuing the results to licensees. The review team concluded that this supervisory review enhanced the quality of the inspection and enforcement documents. The inspectors are also cross-trained as license reviewers providing continuity to the regulatory program. The review team agreed with program management that the State's proposed LAN system would allow additional standardization and implementation of inspection modules, enforcement language, and tracking systems.

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

### 3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the State's actions in responding to incidents and allegations, the review team examined the State's response to the questionnaire regarding this indicator, reviewed the incidents reported for Louisiana in the "Nuclear Material Events Database" (NMED) against those contained in the Louisiana files and reviewed the casework of 14 incident files and two allegation files. No allegations were referred from NRC to Louisiana during period covered by the review. In addition, the review team interviewed the Administrator, the Assistant Administrator, the Manager of the Inspection and Quality Assurance Section and the Manager of the Enforcement Section.

Responsibility for initial response and follow-up actions to materials incidents and allegations rests with the Inspection and Quality Assurance Section. Louisiana procedures require the prompt response by RPD to each incident or allegation. Each incoming notification is discussed with management and staff as appropriate and the response is coordinated with the appropriate field staff including an on-site inspection if appropriate. The managers related that all incidents, complaints, and allegations are evaluated by management, followed up with an inspection if possible, and recorded.

The reviewer examined the State's response and documentation to all 14 events listed in Appendix F and verbally discussed the other events with the Inspection and Quality Assurance Section Program Manager. This effort included the State's incident and allegation process, tracking system, file documentation, and notification of other Federal and State Agencies.

The review team found that the State's responses were well within the performance criteria. Responses were prompt and well-coordinated, and the level of effort was commensurate with health and safety significance. Health Physicists were dispatched to the site when appropriate. The State took suitable corrective and enforcement actions, notified the NRC and other Agencies as appropriate, and followed the progress of the investigation through until close out. Allegations were responded to promptly with appropriate investigations and follow up actions. The State has procedures under their "Sunshine" laws for the control of information, identification protection measures are taken to protect the identity of allengers, and the results of the investigations were documented and provided to the allengers. The review team also found very good correlation of the State's response to the questionnaire, the incident information in the files, and the event information reported on the NMED system printout for Louisiana. Only one discrepancy was noted, in that NMED event number 941466, dated March

18, 1994, was listed as a Baton Rouge, LA event, whereas, the event occurred in Memphis, TN and was followed up by the State of Tennessee. The reason for this discrepancy was that the person (Licensee RSO) that reported the event to the NRC Operations Center resides in Baton Rouge, LA.

The reviewer noted that the State still has a manual system for tracking and processing incidents and allegations. Although no performance deficiencies were noted during the review in this area, the reviewer discussed the merits of computerizing the tracking system, and the utilization of the NRC national system to enter events and document incident findings. In response, Program managers related that the RPD is currently evaluating their needs on a Departmental level for upgrading the various tracking functions. The review team suggested that the State upgrade their system, and implement a computer based system for tracking and documentation of events and allegations.

Based on the IMPEP evaluation criteria, the review team recommends that Louisiana'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 Regulations, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste Disposal Program, and (4) Uranium Recovery. Louisiana is not authorized, pursuant to its agreement with NRC, to regulate uranium recovery operations, so only the first three non-common performance indicators were applicable to this review.

##### 4.1 Legislation and Regulations

###### 4.1.1 Legislative and Legal Authority

Along with their response to the questionnaire, the State provided the review team with copies of legislation that affects the radiation control program. The Office of Air Quality & Radiation Protection, Louisiana Department of Environmental Quality, is designated as the State radiation protection agency in the Louisiana Code, Acts 1979. The Louisiana Nuclear Energy and Radiation Control Law (LNERCL) authority is found in Chapter 6, LA R.S. 30:2101 - 2134. Based upon discussions with staff and the State's response to the questionnaire, the review team confirmed that there have been no changes to the LNERCL since the previous review on the regulation of agreement materials. The legislative authority has been reviewed during previous reviews and considered adequate authority to protect public health and safety.

###### 4.1.2 Status and Compatibility of Regulations

Louisiana's Environmental Regulatory Code, Part XV, Radiation Protection, 5th Edition, was updated and published in January 1996. A copy of these regulations was received and evaluated with the State's response to the questionnaire to determine the status and compatibility of the Louisiana regulations. The questionnaire also documents that the regulations are subject to a "sunset" law, and will need to be reviewed in 1999 under the law; however, the review team discussed the impact of the review of the regulations with State management and believes that

the State will be able to accomplish the review with its current resources.

At the time of the February 1995 follow-up review, the State's regulations were found to be compatible with NRC regulations up through the "Quality Management Program and Misadministrations," 10 CFR Part 35 amendment (56 FR 34104) which became effective on January 27, 1992. The reviewer confirmed that these regulations and others needed as of this 1992 date had been adopted. In general, the State's practice has been to adopt needed regulations within the recommended 3-year time frame except as noted below.

Three NRC regulation amendments became effective in 1993 that were listed on the "NRC Chronology of Amendments" as compatibility items, and which needed to be adopted (if appropriate) during 1996. The first regulation was "Licensing and Radiation Safety Requirements for Irradiators," 10 CFR Part 36 (58 FR 7715) that became effective on July 1, 1993. Louisiana does not have any irradiators or license applications that would be subject to these provisions, and has elected to postpone the adoption of the Part 36 irradiator regulations until an application is received. Management related that the State is committed to regulating these types of irradiators in compliance with Part 36 provisions if the need arises. In response to the questionnaire, the State will utilize license conditions to incorporate the provisions of Part 36, if an application for a large irradiator were to be received. The review team concurs on this position. The second regulation is the "Definition of Land Disposal and Waste Site QA Program," 10 CFR Part 61 (58 FR 39628) that became effective on July 22, 1993. This regulation is required only for those States with a low-level radioactive waste disposal facility; however, since Louisiana has authority for disposal of NORM waste, the State has drafted a revised definition of "Land Disposal Facility" that is compatible with the NRC definition. The third regulation is "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites," 10 CFR Parts 30 and 40 (58 FR 39628) that became effective on October 25, 1993. Louisiana has drafted equivalent regulations for public comment, but they have not yet become effective. Subsequent to the review, the State reported that both revisions were submitted to the department's Regulatory Development Division on March 20, 1997, for publication of a "Notice of Intent" in the Louisiana Register on April 10, 1997. Following the State's administrative procedures, a public hearing will be held, comments will be addressed and, if necessary, the proposed regulations will be revised. Louisiana anticipates completion about August 20, 1997. NRC has reviewed these regulations and informed the State by letter dated April 10, 1997 that the draft regulations were compatible. The adoption of these regulations does not meet the 3-year timeframe for adoption of regulations needed for compatibility.

The other regulations that will be needed for adoption are identified from the "NRC Chronology of Amendments" as follows:

- "Self-Guarantee as an Additional Financial Mechanism," 10 CFR Parts 30, 40, and 70 amendments (58 FR 68726 and 59 FR 1618) that became effective on January 28, 1994. Note, this rule is designated as a Division 2 matter of compatibility. Division 2 compatibility allows the Agreement States flexibility to be more stringent (i.e., the State could choose not to adopt self-guarantee as a method of financial assurance). If a State chooses not to adopt this

regulation, the State's regulation, however, must contain provisions for financial assurance that include at least a subset of those provided in NRC's regulations, e.g., prepayment, surety method (letter of credit or line of credit), insurance or other guarantee method (e.g., a parent company guarantee).

- "Timeliness in Decommissioning of Materials Facilities," 10 CFR Parts 30, 40, and 70 amendments (59 FR 36026) that became effective on August 15, 1994.
- "Preparation, Transfer for Commercial Distribution and Use of Byproduct Material for Medical Use," 10 CFR Parts 30, 32 and 35 amendments (59 FR 61767, 59 FR 65243, 60 FR 322) that became effective on January 1, 1995.
- "Frequency of Medical Examinations for Use of Respiratory Protection Equipment," 10 CFR Part 20 amendments (60 FR 7900) that became effective on March 13, 1995. Note, this rule is designated as a Division 2 matter of compatibility. Division 2 compatibility allows the Agreement States flexibility to be more stringent (i.e., the State could choose to continue to require annual medical examinations).
- "Performance Requirements for Radiography Equipment," 10 CFR Part 34 amendments (60 FR 28323) that became effective on June 30, 1995.
- "Radiation Protection Requirements: Amended Definitions and Criteria," 10 CFR Parts 19 and 20 amendments (60 FR 36038) that became effective August 14, 1995.
- "Clarification of Decommissioning Funding Requirements," 10 CFR Parts 30, 40, and 70 amendments (60 FR 38235) that became effective November 24, 1995.
- "Compatibility with the International Atomic Energy Agency," 10 CFR Part 71 amendment (60 FR 50248) that became effective April 1, 1996.
- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20 and 61 amendments (60 FR 15649, 60 FR 25983) that will become effective March 1, 1998. Louisiana and other Agreement States are expected to have that equivalent rule effective on the same date.

The review team examined the procedures used in the State's regulation promulgation process and found that the public is offered the opportunity to comment on proposed regulations and a public hearing that follows the comment period. The procedures also require the proposed regulations, proposed hearing date, hearing comments and analysis, and the final regulations to be placed on the Department's internet home page. Draft copies of the proposed regulations for "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites," "Definition of Land Disposal and Waste Site QA Program," and "Timeliness in Decommissioning" were provided during the review, and the final regulations will be submitted to NRC.

The review team recommends that the State evaluate the process for promulgating compatible regulations to better ensure that the State meets the three-year time frame.

The team notes that NRC staff is currently reviewing all Agreement State equivalent regulations to Part 20, Standards for Protection Against Radiation. These reviews are being conducted outside the IMPEP process and the States will be notified of the results.

Based on the existing NRC compatibility policy and the IMPEP evaluation criteria, the review team recommended that Louisiana's performance with respect to the indicator, Legislation and Regulations, be found unsatisfactory. The compatibility findings for the Louisiana program were re-evaluated and revised by the MRB based on the draft of Louisiana's "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites" regulation. The MRB recommends that the State implement the requirements in the draft Louisiana's "Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Sites" regulation through the legal binding requirements on a case-by-case basis until the regulation is promulgated as final. The MRB final recommendation for Legislation and Regulations is satisfactory with recommendations for improvement.

#### 4.2 Sealed Source and Device Evaluation Program

In evaluating the State's SS&D program, the review team evaluated the information provided by the State relative to this indicator in its response to the questionnaire, reviewed the casework, registration sheets and background files that were available, for all, except one, of the certificates of registration sheets issued since September 1993 and the 1994 follow-up review. The review team did not re-evaluate the issuance of the SPEC Model 150 registration sheet because the State worked closely with the NRC during this review process. A former State staff member spent a week at NRC headquarters working with NRC staff on the technical review of this application. During the IMPEP review, the State was unable to locate some of the proprietary information that had been stored separately from the non-proprietary information for several SS&D applications. Subsequent to the review, the State has reported that the proprietary information has been located. During the review, NRC staff and Louisiana staff had recalled working with this information. Further, the proprietary files were reviewed during the 1994 follow-up visit. It is important to note that although some pertinent written supporting information and drawings could not be located, the review team was able to use verbal NRC staff and State staff interviews to address issues and questions that were identified during the IMPEP review. This was only possible because the State and NRC exchanged a lot of information during this review period. The States's staff qualifications and handling of incident and defects associated with sources and devices were also reviewed.

The State suffered a significant set back in its SS&D program by the loss of a staff member who performed the majority of the product evaluations. No reviews have been completed under the program since the loss of this staff member. There are presently two administrative actions waiting review and one unusual technical review involving splicing of source assembly cables. The technical staff reviews the product using NRC guidance and regulatory guides in this area. The second signature is performed by the program manager; in this case the program manager's review is only for administrative type issues. A

second, less technical review, is conducted by the Administrator on all sheets before they are distributed, but the Administrator does not sign them.

#### 4.2.1 Technical Quality of the Product Evaluation Program

The review team reviewed the files that could be located and performed staff interviews for the nine new or revised SS&D registry sheets issued since the September 1993 review, including the state review and approval for licensing purposes of new radiography sources and brachytherapy sources and a custom gauging source. Modification to the Omnitron remote afterloading brachytherapy device registration was also made to allow for, and storage of, higher activity sources in the storage container prior to installation in the afterloader. The SS&D registry sheets issued by the State and evaluated by the review team are listed in Appendix G. Overall, the quality of the evaluations was good with minor technical comments and showed a drastic improvement since the September 1993 review of the program. The review team found that the State had developed procedures for preserving the integrity of proprietary information furnished by the manufacturer for issuing SS&D registry sheets; however, they were not able to locate the files for review during this evaluation. The missing information is necessary to assess the effect of a change to a radiography source as a result of some problems in the field. Note, the State had reported that the files had been located. It is suggested that the State review this data before making a determination of acceptability of the source. The review team found that the State's plan to develop and modify registration sheets identified in the 1993 review had not progressed. With the implementation of NRC 10 CFR 34.20 equipment requirements, the registration sheets identified in the 1993 review which required modification, are for products that are not legal to use. The State did not expend any additional resources to address this issue nor did they implement the additional staff review as stated in the plan. The review team identified the following items that need action by the State: (a) An additional staff member with industry experience in source fabrication, equipment design, and fabrication should be available to supplement the staff responsible for review of the product evaluation. This item is critical now, given the lack of experience with the industry of the State lead technical reviewer. (b) Review propriety information that was previously missing before final action is taken on pending source and device amendment requests. This is of particular importance because of a pending request to splice/repair source assemblies by using a compression sleeve in the middle of the cable. The State must carefully review this proposed change for affect on the flexibility and on the endurance of the radiography system. c) Determine how the custom gauging source chains are held together when they are placed in use as insertion gauges.

#### 4.2.2 Technical Staffing and Training

The State was developing a two-person team both with nuclear engineering degrees to conduct product reviews. Both persons attended the NRC Workshop on SS&D evaluations. The loss of the more experienced member of this team poses a challenge for the State. The newest addition to the team demonstrated to the review team the ability to understand and interpret the information submitted by applicants as described in the performance criteria. This member has attended the workshop but has not performed independent SS&D evaluations. The State staff discussed with the IMPEP review team a request granted for this State reviewer to work

with the Sealed Source Safety Section at NRC Headquarters, which the Sealed Source Safety Section has extended. The State's management is considering that option. The State expressed concern about the need for attending virtually all the NRC courses and the lack of State funding to pay for NRC course training. The review team is aware that the loss of a fully trained and experienced reviewer presents potential for weakness to develop in the program. However, we believe that these potential weaknesses can be offset by: (a) an additional staff member with industry experience in source fabrication, equipment design, and fabrication available to supplement the staff responsible for review of the product evaluation identified above in Section 4.2.1, and (b) implementing a training program for SS&D technical reviews, to develop an understanding of the industry and its unique environmental factors that are associated with the use and manufacture of sources and devices. The review team recommends that the State develop and implement a training program for SS&D reviewers.

#### 4.2.3 Evaluation of Defects and Incidents Regarding SS&Ds

The State evaluated incidents associated with two radiography cameras, the SPEC 2-T and the SPEC 150. The SPEC 2-T incident was not fully investigated because the effective date of the NRC equipment performance rule made this camera no longer legal to use. The SPEC 150 camera was investigated, and the vendor took corrective action in one case to replace a drive cable connector with a stainless steel part and in another case to redesign the source assembly to eliminate the solid connector locking ball assembly to reduce the possibility of source hangups. Because of the loss of staff, the State has not notified other regulatory authorities of this design modification. The review team recommends that the State follow up on this incident to ensure that the SS&D sheet is modified and properly distributed.

Based on the IMPEP evaluation criteria, the review team recommends that the State of Louisiana's performance with respect to the indicator, Sealed Source and Device Evaluation Program, be found satisfactory with the recommendations for improvement noted above.

#### 4.2.4 Site Visit

On October 8, 1996, NRC staff and Louisiana staff performed a site visit of Amersham Corporation's service center located in Baton Rouge, LA. One objective of the site visit was to develop an understanding of the operation and its interaction with the Amersham facility in Burlington, Massachusetts. The second objective was to introduce the new sealed source and device reviewer to the types of radiography equipment, equipment problems, and service facilities that the radiography industry depends on. The visit was also timely because this reviewer was reviewing a radiography source assembly, and he had never seen an assembly or how it relates to the radiography camera, guide tubes, collimators, and control cables. We understand that the State has plans for this reviewer to visit with other source and device vendors and users as part of his development plan.

The Amersham facility provides service, repair and source exchange operations for mostly local radiography firms. The facility also repairs and calibrates survey meters, and analyzes leak test samples. The facility employs about five people and also sells an entire line of film supplies and supporting equipment needed by radiographers. The facility is audited periodically by Amersham Massachusetts for

conformance to the corporate quality assurance program. The facility has a small hot cell with additional shielding behind the unit for performing source exchanges. The Louisiana reviewer was able to witness first hand the effects of environmental conditions and abuse of radiography equipment.

#### 4.3 Low-Level Radioactive Waste (LLRW) Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Authority and Assumption Thereof by States Through Agreement" to allow a State to seek an amendment for the regulation of LLRW as a separate category. Those States with existing Agreements prior to 1981 were determined to have continued LLRW disposal authority without the need of an amendment. Although Louisiana 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, it is 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 Louisiana. Accordingly, the review team did not review this indicator.

#### 5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found the State's performance with respect to each of the common performance indicators to be satisfactory and the non-common indicators Legislation and Regulations and Sealed Source and Device Evaluation Program to be satisfactory with recommendations for improvements. Accordingly, the team recommended, and the MRB concurred in finding the Louisiana program to be adequate to protect public health and safety and compatible with NRC's program.

Below is a summary list of recommendations and suggestions, as mentioned in earlier sections of the report, for consideration by the State.

1. The team recommends that the State adopt a policy of issuing unrestricted release letters in all cases where loose material has been used, and before the license is terminated (Section 3.3).
2. The team recommends that each location of use on multiple site licenses be revised by license condition to specify the material authorized for each different location of use or site (Section 3.3).
3. The review team recommends that all licensees be notified according to the All Agreement States Letter SP-96-022 which requests licensees to file for reciprocity when performing work under exclusive federal jurisdiction. Licenses which allow for temporary job sites should be amended to state that a reciprocity request will be filed when conducting work under exclusive federal jurisdiction (Section 3.3).
4. The review team suggests that the State re-evaluate their document control system, and take appropriate measures to assure that files are maintained complete and up-to-date (Section 3.4).

5. The review team suggests that the State upgrade their tracking system, and implement a computer based system for tracking and documentation of events and allegations (Section 3.5).
6. The review team recommends that the State evaluate the process for promulgating compatible regulations to better ensure that the State meets the three-year time frame (Section 4.1.2).
7. The MRB recommends that the State implement the requirements in the draft Louisiana's Decommissioning Recordkeeping Documentation of Restricted Areas and Spill Site regulation through legal binding requirements on a case-by-case basis until the regulation is promulgated as final (Section 4.1.2).
8. The review team identified the following items and recommends action by the State: (a) An additional staff member with industry experience in source fabrication, equipment design, and fabrication should be available to supplement the staff responsible for review of the product evaluation. This item is critical now, given the lack of experience with the industry of the State lead technical reviewer. (b) Review proprietary information that was previously missing before final action is taken on pending source and device amendment requests. This is of particular importance because of a pending request to splice/repair source assemblies by using a compression sleeve in the middle of the cable. The State must carefully review this proposed change for effect on the flexibility and on the endurance of the radiography system. (c) Determine how the custom gauging source chains are held together when they are placed in use as insertion gauges (Section 4.2.1).
9. The review team recommends that the State develop and implement a training program for SS&D reviewers (Section 4.2.2).
10. The review team recommends that the State follow up on the incident associated with the two radiography cameras to ensure that the SS&D sheet is modified and properly distributed (Section 4.2.3).

APPENDIX A  
IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Richard L. Woodruff, RII	Team Leader Technical Staffing and Training Response to Incidents and Allegations Legislation and Regulations
James Myers, OSP	Status of Materials Inspection Program Technical Quality of Inspections
Elizabeth Drinnon, Georgia	Technical Quality of Licensing Actions
Steve Baggett, NMSS/IMNS Program	Sealed Source and Device Evaluation

LIST OF APPENDICES AND ATTACHMENTS

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Appendix B	Louisiana RPD Organization Charts
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APPENDIX B

LOUISIANA RDP ORGANIZATION CHARTS