

December 27, 2005

Mr. Richard B. Bays, Assistant Commissioner  
Division of Regulatory Services  
Texas Department of State Health Services  
8407 Wall Street, Room S101  
Austin, TX 78754

Dear Mr. Bays:

On December 14, 2005, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Texas Agreement State program. The MRB found the Texas program adequate but needs improvement and compatible with the U.S. Nuclear Regulatory Commission's (NRC) program. The MRB determined the Texas program should continue the period of heightened oversight and that a follow-up review should take place in approximately one year. Heightened oversight is an increased monitoring process used by NRC to follow the progress of improvement needed in an Agreement State program. It involves preparation of a program improvement plan, bimonthly conference calls, and submission of status reports prior to each call with the appropriate Texas and NRC staffs.

The Texas Agreement State program was initially placed on heightened oversight as a result of a March 15, 2005 periodic meeting with the Texas Department of State Health Services (the Department). The decision to place the State on heightened oversight was based on concerns with staff turnover, status of inspections, timeliness of reporting events, and status of regulations within the Department. The Department has made considerable progress in addressing the concerns from the March 2005 periodic meeting during the short time the State has been on heightened oversight. The enclosed report acknowledges the progress made by the Department to restore the program to the fully satisfactory level. In particular, the Department has made commendable efforts in addressing staffing levels, event reporting and regulation adoption. Although the State has made significant progress, a period of sustained performance at the satisfactory level must be demonstrated prior to removal from the heightened oversight process.

I request that the Department revise and resubmit their program improvement plan as part of the response to the recommendations in Section 5 of the enclosed final report. The revised plan should be submitted within 30 days of this letter. If you have any questions regarding the expectations of the program improvement plan, please have your staff contact Janet R. Schlueter, Director of the NRC's Office of State and Tribal Programs. I request that the bimonthly conference calls between the Department and NRC staff continue during the period of heightened oversight. The first call should take place approximately two weeks after the submittal of the Department's revised program improvement plan. Two weeks prior to each subsequent call, the Department should provide a status report of actions associated with the plan to the NRC.

A follow-up review will be scheduled in approximately one year to cover the State's actions on the recommendations from the September 2005 review. The follow-up review will focus on those performance indicators that were below the satisfactory level at the time of the September 2005 IMPEP review. If the Department believes that all recommendations have been adequately addressed and that the Department's performance for all indicators is at the satisfactory level before the tentatively scheduled date of the follow-up review, the NRC will consider moving the follow-up review to an earlier time to release the State from the requirements of heightened oversight if supported by the results of the review. Periodic meetings with both the Department and the Texas Commission on Environmental Quality will be held in conjunction with the follow-up review.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review. I also wish to acknowledge your continued support for the Agreement State program and the excellence in program administration demonstrated by your staff, as reflected in the team's findings. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely,

*/RA/*

Martin J. Virgilio  
Deputy Executive Director for Materials, Research,  
State and Compliance Programs  
Office of the Executive Director for Operations

Enclosure:  
As stated

cc: D. Eden, Deputy Director  
Office of Permitting, Remediation & Registration, TCEQ  
E. J. Sanchez, M.D.  
Commissioner, TDSHS  
K. H. White, Chairman, TCEQ  
R. A. Ratliff, TDSHS  
S. M. Jablonski, TCEQ  
G. T. FitzGerald, TCEQ  
R. Mulder, State Liaison Officer  
R. G. Fletcher, MD  
Organization of Agreement States  
Liaison to the MRB

December 27, 2005

Mr. Dan Eden, Deputy Director  
Office of Permitting, Remediation & Registration  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, MC 122  
Austin, TX 78753

Dear Mr. Eden:

On December 14, 2005, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Texas Agreement State program. The MRB found the Texas program adequate but needs improvement and compatible with the U.S. Nuclear Regulatory Commission's (NRC) program. The MRB determined the Texas program should continue the period of heightened oversight and that a follow-up review should take place in approximately one year. Heightened oversight is an increased monitoring process used by NRC to follow the progress of improvement needed in an Agreement State program. It involves preparation of a program improvement plan, bimonthly conference calls, and submission of status reports prior to each call with the appropriate Texas and NRC staffs.

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D. Eden

-2-

A follow-up review will be scheduled in approximately one year to cover the State's actions on the recommendations from the September 2005 review. The follow-up review will focus on those performance indicators that were below the satisfactory level at the time of the September 2005 IMPEP review. If the Department believes that all recommendations have been adequately addressed and that the Department's performance for all indicators is at the satisfactory level before the tentatively scheduled date of the follow-up review, the NRC will consider moving the follow-up review to an earlier time to release the State from the requirements of heightened oversight if supported by the results of the review. Periodic meetings with both the Department and the Texas Commission on Environmental Quality will be held in conjunction with the follow-up review.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review. I also wish to acknowledge your continued support for the Agreement State program and the excellence in program administration demonstrated by your staff, as reflected in the team's findings. I look forward to our agencies continuing to work cooperatively in the future.

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*/RA/*

Martin J. Virgilio  
Deputy Executive Director for Materials, Research,  
State and Compliance Programs  
Office of the Executive Director for Operations

Enclosure:  
As stated

cc: R. B. Bays, Assistant Commissioner  
Division of Regulatory Services, TDSHS  
E. J. Sanchez, M.D.  
Commissioner, TDSHS  
K. H. White, Chairman, TCEQ  
R. A. Ratliff, TDSHS  
S. M. Jablonski, TCEQ  
G. T. FitzGerald, TCEQ  
R. Mulder, State Liaison Officer  
R. G. Fletcher, MD  
Organization of Agreement States  
Liaison to the MRB

R. B. Bays

-2-

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Martin J. Virgilio  
Deputy Executive Director for Materials, Research,  
State and Compliance Programs  
Office of the Executive Director for Operations

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As stated

cc: D. Eden, Deputy Director  
Office of Permitting, Remediation & Registration, TCEQ  
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Identical letter sent to: Dan Eden, Deputy Director  
Office of Permitting, Remediation & Registration  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, MC 122  
Austin, TX 78753

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
REVIEW OF TEXAS AGREEMENT STATE PROGRAM

SEPTEMBER 7-16, 2005

**FINAL REPORT**

U.S. Nuclear Regulatory Commission

## 1.0 INTRODUCTION

This report presents the results of the review of the Texas Agreement State program. The review was conducted during the period of September 7-16, 2005, by a review team consisting of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement States of Florida, Ohio, and Washington. 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 February 26, 2004, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period of September 1, 2001 to September 16, 2005, were discussed with Texas management on September 9, 2005 for the Texas Commission on Environmental Quality (the Commission) and September 16, 2005 for the Texas Department of State Health Services (the Department).

A draft of this report was issued to Texas for factual comment on October 21, 2005. The Department responded to the findings and conclusions of the review by letter dated November 16, 2005, from Richard Bays, Assistant Commission for Regulatory Services. The Commission relayed their comments by telephone on November 16, 2005. The Management Review Board (MRB) met on December 14, 2005 to consider the proposed final report. The MRB found the Texas Agreement State program adequate but needs improvement and compatible with the NRC's program. Based on the results of the review, the review team recommended and the MRB agreed that Texas remain on Heightened Oversight.

The Texas Agreement State program is administered by two State agencies, the Department and the Commission. Organization charts for the Department and the Commission are included as Appendix B.

The Department regulates approximately 1,650 specific materials licenses. The Department's responsibility includes regulatory authority for the 11e.(2) byproduct material (uranium recovery activities) and currently regulates three conventional uranium mills, five in-situ uranium mines, and has an application for a commercial 11e.(2) disposal facility. In addition to the radioactive materials activities, the Department administers a laboratory program for environmental sciences under the Laboratory Services Section in the Division of Prevention and Preparedness. The Commission has regulatory responsibility for low-level radioactive waste (LLRW) disposal (a commercial disposal site application is under review) and the decommissioning/regulation of on-site burial activities.

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 Texas.

In preparation for the review, questionnaires addressing the common and non-common performance indicators were sent to the Department and the Commission by letter dated July 14, 2005. The Commission provided a response to the questionnaire dated August 12, 2005 and the Department provided a response to the questionnaire dated August 12, 2005. Copies of the complete questionnaire responses from each agency can be found on NRC's



Agencywide Document Access and Management System (ADAMS) using the Accession Numbers ML052860421 and ML052860383, respectively.

The review team's general approach for conduct of this review consisted of: (1) examination of Texas' responses to the questionnaire; (2) review of applicable Texas statutes and regulations; (3) analysis of quantitative information from the Department's and the Commission's licensing and inspection databases; (4) technical review of selected licensing and inspection actions; (5) field accompaniments of five Department inspectors; and (6) interviews with staff and management of both agencies to answer questions or clarify issues. The team evaluated the information that it gathered against the IMPEP performance criteria for each common and applicable non-common performance indicator and made a preliminary assessment of the Agreement State program's performance.

Section 2 below discusses the Department's and the Commission'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 and recommendations. Recommendations made by the review team are comments that relate directly to program performance by the State. A response is requested from the State to all recommendations in the final report.

## 2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on August 31, 2001, three recommendations were made and transmitted to Mr. Bays, Associate Commissioner, the Department, and Ms. Ing, Deputy Director, Office of Permitting, Remediation & Registration, the Commission, on December 21, 2001. The team's review of the current status of these recommendations is as follows:

1. The review team recommends that the Department adhere to the policy of annual supervisory accompaniments of all qualified inspectors. (Section 3.2 of the 2001 report)

Current Status: The accompaniments are now being coordinated between the Radiation Inspection Group Manager and the Radiation Policy, Standards and Quality Assurance (PSQA) Group Manager. The accompaniments are being split between these groups. The accompaniments are then rotated the next year so that the entire program is audited by each group over a two-year period. This recommendation remains open and is further discussed in Section 3.3.

2. The review team recommends that the Department report all significant and routine events as well as follow-up event information to the NRC in accordance with the STP Procedure SA-300, "Reporting Material Events." (Section 3.5 of the 2001 report)

Current Status: As part of the preparation for the IMPEP review, the NRC staff reviewed all the reportable events that were reported to the Nuclear Material Events Database (NMED) by the Department since the previous IMPEP review. The Department has hired two new investigators and trained them on the Office of State and Tribal Programs (STP) Procedure SA-300 and the use of the NMED system. The Department staff has conducted a review of the Texas events in the NMED system to

determine if they are complete and can be closed. This recommendation remains open and is further discussed in Section 3.5.

3. The review team recommends that the Department prepare necessary supporting documentation identifying the bases for the licensing actions associated with reclamation plans for the three conventional mills. (Section 4.4.4 of the 2001 report)

Current Status: The three conventional mills have significant groundwater issues and closure will be a long-term project. The Department staff has continued to make progress on the groundwater issues but has not developed the supporting documentation for these closures. This recommendation remains open and is further discussed in Section 4.4.

Recommendation for the NRC from the 2001 IMPEP report:

1. The review team recommends that NRC, in coordination with the Agreement States, re-evaluate the two-person rule to assess the effectiveness of the intended outcomes, including experience from past events, and propose a strategy and rule interpretation that best achieves the goal of safety. (Section 4.1.2)

Current Status: Texas has adopted and is implementing a version of the 10 CFR 34.41(a) regulation commonly known as the "Two-Person Rule" in a manner where licensees are allowed the flexibility to determine when radiographic operations can be conducted safely where the first radiographer and/or other radiographic personnel could observe operations and prevent intrusion into the restricted area while the second radiographer is nearby engaged in other job-related activities. The review team did not attribute any events or incidents in Texas as a result of implementing 10 CFR 34.41(a) in this manner. The NRC convened a working group composed of staff from NRC and Agreement States to re-evaluate the two-person rule. The working group completed its work and presented a report to the MRB that contained several options. The NRC is continuing to hold in abeyance compatibility findings for those Agreement States that have adopted and are implementing the 10 CFR 34.41(a) rule in this manner, until the NRC issues a determination on a petition for rulemaking. On March 8, 2005, the Organization of Agreement States (OAS) and the Conference of Radiation Control Program Directors, Inc. executive boards decided that Texas would prepare a draft petition for rulemaking on the two-person rule to be completed within six months. Texas has drafted the petition and on September 14, 2005 submitted it to the OAS for review and approval. OAS will submit the petition to NRC upon approval by the OAS. Upon receipt of the petition, NRC will process it in accordance with its petition procedures. This recommendation is closed.

### 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) Technical Staffing and Training; (2) Status of Materials Inspection Program; (3) Technical Quality of Inspections;

(4) Technical Quality of Licensing Actions; and (5) Technical Quality of Incident and Allegation Activities.

### 3.1 Technical Staffing and Training

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

The 78<sup>th</sup> Texas Legislative Session passed House Bill 2292 that consolidated four legacy agencies including the Texas Department of Health into a single department. On September 1, 2004, the Department was created and designated as the State's radiation control agency. The Department consists of four programs including the Division of Regulatory Services, which retains the functions of the State's radiation control program. The Department is organized into functional groups rather than into program groups. The Radiation Program Officer is designated as the radiation control program director and provides a coordinating role among the functional groups.

Currently, the Department has a total of 128 employees working in the radiation control program area. Among them, 91 employees work at the main office in Austin and 37 employees work at 11 regional offices. The materials portion of the radiation control program has 29 staff in the licensing and records management program, and 42 staff in the inspection, environmental monitoring, quality assurance, and enforcement programs.

At the time of the review, there were seven vacancies reported in the materials area including four regional inspectors, two environmental monitoring group staff, and one quality assurance staff member. Two of the positions have been posted and interviews have been conducted without finding qualified individuals. Due to the four inspector vacancies as well as the turnover in inspection staff, the review team noted that the program has a backlog of inspections and a high number of inspections conducted overdue (see discussion in Section 3.2). The Department posts vacancy announcements as soon as they are administratively approved.

The Department's response to the questionnaire indicated that 21 staff members left the program, 16 staff members were hired, and 4 staff transferred into the materials program during the review period. The qualifications of the staff were determined from the questionnaire, training records, resumes and interviews of personnel. The review team found the staff well-qualified from an education and experience standpoint. All have at least Bachelor's degrees in the sciences, or equivalent training and experience. The review team noted that a qualification journal is used for each license reviewer and inspector. The journal establishes minimum training requirements for personnel assigned to perform license reviews or inspections for materials facilities. The qualification journal is based upon the guidance in Manual Chapter (MC) 1246 and the Final Report of the NRC/OAS Training Working Group Recommendations for Agreement State Training Programs. The technical staff including license reviewers and inspectors is expected to receive basic training courses (or equivalent) within the first two years of starting work with the Department. In addition to the training

courses, inspectors are required to demonstrate competence during supervisory accompaniments prior to being authorized to perform inspections independently.

The Department continues to be committed to staff training. Texas has hosted several NRC courses in order to meet their training needs given their out-of-state travel restrictions. In addition to NRC training courses, training alternatives that are less costly were also used. The review team noted that some staff members are attending a basic health physics course offered by Baylor University.

The review team discussed with Department management their concerns about the effect of an aging workforce and their ability to maintain a highly qualified workforce in the years to come. There are ten retired staff that have been rehired. The State recently changed the rehire policy to make the rehire option less attractive. The review team noted that one of the State's highest priorities is to effectively deal with potential loss of a qualified workforce because of retirement of senior staff and managers in the near future. The legislature approved a seven percent pay increase (4 percent in September 2005 and 3 percent in September 2006). The legislature also approved a new health physics career series with additional promotion potential for existing staff. The Department has proposed a new fee rule to fund the additional expenses for this series and the Department management is reworking the position description to meet the new series. The new series could become effective in early 2006. In an effort to retain qualified staff and attract new staff, the Department has implemented several new work schedule options during the review period, including work-at-home options for some inspectors, flex time, and compressed work schedules options. The Department is also currently working on instituting an intern program to attract entry-level staff.

The seven vacancies and the staff turnover have significantly contributed to the decline in the performance of the Department in the indicators discussed below. The review team recommends that the Department hire and retain sufficient qualified staff to return and maintain the program at a satisfactory performance level.

The Texas Radiation Advisory Board (the Board) is composed of 18 members appointed by the Governor. Currently the Board has four vacancies with eleven of fourteen members serving on expired terms. The Board members reflect a variety of backgrounds in the use of radiation and also includes three members of the public. The purpose of the Board is to review and evaluate State radiation policies and programs; make recommendations and furnish technical advice to the Department, the Commission and the Railroad Commission and review and comment on proposed rules and guidelines relating to regulation of sources of radiation. Each member is required to complete a training program including conflict-of-interest laws before the member can vote, deliberate, or be counted as a member in attendance at a meeting of the Board. The conflict-of-interest training and procedures for the Board appear adequate to address conflict-of-interest issues. During the IMPEP review, the review team made a presentation on the IMPEP process to the Board at their request.

The Commission uses the same staff for their regulatory responsibilities under this performance indicator as in the LLRW disposal activities. Because of their limited activity in the materials area, the review team found their staffing and training acceptable based on the program in place as discussed in Sections 4.3.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, Technical Staffing and Training, is satisfactory but needs improvement.

### 3.2 Status of Materials Inspection Program

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

The review team's evaluation of the Department's inspection priorities revealed that inspection frequencies for each type of license were the same or more frequent than similar license types listed in MC 2800. The Department requires more frequent inspections for the following license categories: all type A broad scope licenses are inspected on a one-year frequency compared with the NRC two-year frequency for type A broad scope industrial and academic licensees; type B and C broad scope licenses are also inspected on a one-year frequency compared to the NRC frequencies of three and five years respectively; portable gauge measuring systems are inspected on a two-year frequency compared to the NRC frequency of five years and general license distribution type licenses are on a four-year frequency compared to NRC's five-year frequency.

In their response to the questionnaire, the Department indicated that there were a total of 81 inspections of Priority 1, 2, and 3 licensees that were overdue at the time of the review. This information was compared to two reports generated by Department staff and management, one containing dates of inspection for all licensees and the other containing dates of inspection for initial licenses. Department staff generated a table for the review team to use indicating which licensees were Priority 1, 2, and 3. From this information, the review team noted that 196 Priority 1, 2, and 3 inspections were completed overdue during the review period or were overdue at the time of the review. The review team also noted that 92 initial inspections were completed overdue during the review period or were overdue at the time of the review. The 288 overdue inspections represented 18 percent of the 1,593 core inspections performed by the Department during the review period.

The timeliness of the issuance of inspection findings was evaluated during the inspection file review. The Department has set a goal of issuing the compliance finding within 31 days of the inspection. Field office notes are expected to be sent to the Austin office within 14 days after the inspection. Findings should be issued by the Austin office to the licensee within 17 days after receiving the field notes. The review team sampled inspection files for the timeliness of issuance of inspection letters and found that 15 of 29 inspection letters were issued greater than 31 days from completion of the inspection. The Department has instituted a quality assurance review step in the processing of the inspection reports by the staff in Austin to improve the quality of their inspection reports. However, this review step appears to contribute to the delay in issuance of the inspection reports. The review team recommends that the Department review their process for issuance of inspection letters and develop a process that will allow the 31-day issuance goal for routine cases to be achieved on a consistent basis.

In their response to the questionnaire, the Department stated that 14 of 77 candidate licenses requesting reciprocity were inspected during the review period. The information was discussed with the radioactive materials inspection group management. Although this is close to the 20 percent criterion prescribed in MC 1220, the Department needs to be more diligent on inspecting licenses operating under reciprocity. The Department agreed and believes that, upon filling and training the vacant inspector positions, the Department will be able to meet or exceed the 20 percent criterion for reciprocity inspections.

The Commission has regulatory oversight for the two on-site burial licensees with only one active licensee conducting ongoing on-site burials. The Commission completed annual inspections of the active licensee and inspections at 18-month intervals of the closed site. At the time of the review, the inspections were up to date, and there was no backlog.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, Status of the Materials Inspection Program, is satisfactory, but needs improvement.

### 3.3 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and interviewed inspectors for 29 radioactive materials inspections conducted during the review period. The casework included work performed by 15 of the Department's materials inspectors, and covered a variety of license types including: academic; medical (diagnostic and therapy); nuclear pharmacy; industrial radiography; pool irradiator; well logging; fixed gauge; storage only; broad scope (academic and medical); manufacturing and distribution; processor of unsealed radioactive material; and research and development. Appendix C lists the inspection casework reviewed for completeness and adequacy with case-specific comments, as well as the results of the inspection accompaniments.

Based on the casework evaluated, the review team noted that the routine inspections covered all aspects of the licensees' radiation programs. The review team found that inspection reports were generally very thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that a licensee's performance with respect to health and safety was acceptable. The documentation supported violations, recommendations made to the licensee, and unresolved safety issues. Exit interviews were held with appropriate licensee personnel. The review team found that routine inspections adequately cover the licensee's radiation protection program, included a written summary of the scope of the licensed activities, and categorized violations in severity levels, if any. The majority of violations cited were record-keeping infractions. The review team noted that the documentation in the inspection reports issued early in the review period were not always complete; however, the evaluation of reports issued in the last 18 months showed significant improvement in documentation. The Department attributed this improvement to a new Radiation Inspection Report Quality Assurance Review Standards procedure that was implemented. This procedure directs the Radiation Policy, Standards, and Quality Assurance (PSQA) Group reviewers to review the inspectors' reports, identify any issues and categorize them as Level I - IV issues (Level IV being the most significant). The quality and completeness of the inspection reports is one of the major factors that is used for individual inspector's performance evaluations. A report is generated each quarter compiling the number of Level II - IV issues identified for each inspector. This report is forwarded to the Radiation PSQA Group Manager and the Radiation Inspection Group Manager to be used for the inspector's annual performance appraisal. While

the quality of the documentation had significantly improved, the review team noted during the review of inspection reports that the reports do not document the inspector's observation of licensed operations or handling of radioactive material. The review team observations during the inspector accompaniments further identified that the inspectors are not conducting the observations of licensed activities.

During the review of the inspection reports, the review team noted that there was no evidence that management reviewed the inspection reports. In discussions with Department management, the review team found that only reports returned to the inspector for correction and those being considered for escalated enforcement are reviewed by management. Reports returned to the inspector are reviewed by the Radiation PSQA Group Manager and the Radiation Inspection Group Manager. Inspections being considered for escalated enforcement are referred to an Enforcement Review Committee for consideration. The Committee consists of the Enforcement Unit Manager, the Enforcement Group Manager, the Radiation PSQA Group Manager, the State's attorney, and the appropriate inspection staff members. Otherwise, completed inspection reports are signed by the inspector and the PSQA reviewer, with no management review or concurrence, and the PSQA reviewer sends the compliance letter informing the licensee of the final results of the inspection. The review team discussed with management the benefits of management review of inspection reports and notices of violations.

During the 1997 and 2001 IMPEP reviews, it was recommended that the Department adhere to the annual supervisory accompaniment policy. The review team found that during this review period, annual inspector accompaniments were not being conducted for all inspectors. The Department's policy is to conduct annual accompaniments by either the Radiation Inspection Group Manager or a PSQA reviewer within the calendar year. The following year the groups switch which inspectors they accompany. The Radiation Inspection Group Manager or a PSQA reviewer did not conduct annual accompaniments for all the qualified inspection staff in calendar years 2001 - 2003. In 2004, all the inspectors were accompanied by either the Radiation Inspection Group Manager or a PSQA reviewer. At the time of the review, only three inspectors had been accompanied for calendar year 2005. The Radiation Inspection Group Manager or a PSQA reviewer will need to accompany the remaining seven inspectors within this calendar year. Thus, as discussed in Section 2 above, the recommendation from the 2001 IMPEP report remains open.

The Department has adequate numbers and types of radiation survey instruments to support the inspection program and for responding to incidents and emergency conditions. The Department calibrates their own survey instruments at a six-month frequency. Appropriate, calibrated survey instruments such as Geiger-Mueller (GM) meters, scintillation detectors, ion chambers and micro-R meters were observed. The Department has portable multi-channel analyzers and air monitoring equipment that can be used when needed. Contamination wipes are sent to the State's laboratory for analysis. The laboratory, which is administered by the Laboratory Services Section under the Division of Prevention and Preparedness of the Department, was visited on September 14, 2005 by an IMPEP team member. The laboratory was found to have adequate staffing, facilities, and instrumentation to support the radiological analysis needs of the Department. The laboratory also maintains a mobile laboratory van for use in emergencies and emergency exercises.

Five Department inspectors were accompanied during inspections by a review team member and an IMPEP qualified inspector during the weeks of August 1, 2005, August 8, 2005, and

September 5, 2005. Inspection accompaniments included the following license types: self-shielded irradiator and academic research and development, well logging and tracer studies in oil wells, medical institution diagnostic/brachytherapy/teletherapy, and nuclear pharmacy. These accompaniments are identified in Appendix C. During the accompaniments, each inspector demonstrated appropriate safety perspective and knowledge of the regulations. The inspectors were trained, prepared, and thorough in their audits of the licensees radiation safety programs. Each inspector utilized good health physics practices. However, the review team noted that in most cases the inspectors did not apply performance-based inspection techniques (observations of licensed activities) which are part of the Department's inspection procedures during the inspections. The inspectors' primary focus was on review of records, collecting data, performing independent, confirmatory surveys of the storage areas, and completing the detailed inspection report. The inspector should observe work in progress that involves State-regulated activities. If there is no opportunity, then the inspector should ask the workers to demonstrate and explain selected licensed activities. Most of the inspectors only interviewed the licensees' primary radiation safety staff, even when licensed activities were ongoing. During one accompaniment, the inspector failed to observe a nuclear medicine technologist assay a unit dose without using extremity dosimetry or gloves. The review team recommends that the State develop a process to ensure that inspections are performed in accordance with their own performance-based inspection procedures.

The Commission uses inspection procedures for their regulatory responsibilities consistent with the procedures the Department uses. The review team evaluated the inspections for the two materials licensees administered by the Commission. The inspections were thorough, technically sound, and acceptable in quality. The inspector was accompanied by management while conducting other inspection activities, but was not accompanied during a materials inspection. The Compliance Manager agreed to include materials inspection accompaniments in the future. The review team found the Commission's performance in this area acceptable.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, Technical Quality of Inspections, is satisfactory, but needs improvement.

### 3.4 Technical Quality of Licensing Actions

The review team interviewed license reviewers, evaluated the licensing process, and examined licensing casework for 20 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 license conditions, and overall technical quality. The casework files were also evaluated 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, peer or 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 that were completed during the review period. The sampling included the following types: well logging, industrial radiography, medical (institution, private practice, gamma knife, and broad scope), nuclear pharmacy, academic/educational broad scope, research and development, manufacturing and distribution, portable and fixed gauge licenses. Types of licensing actions



selected for evaluation included three new licenses, nine amendments, five renewals and three license terminations. The work of eight license reviewers from the Industrial Licensing, Medical/Academic Licensing, and Advanced Technology Licensing Programs was evaluated. A list of the licensing casework evaluated with case-specific comments is included in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, consistent, of high quality and properly addressed health and safety issues. The staff followed appropriate licensing guides during the review process to ensure that licensees submit information necessary to support their request. Deficiencies were addressed in timely letters to the applicant/licensee. The deficiencies contained appropriate regulatory language and were noted in the license file.

At the time of the review, the Department had approximately 90 renewal actions that were open for more than one year. Priorities have been set to ensure that health and safety issues are addressed in a timely manner. New licenses are given the highest priority followed by terminations, amendments, and renewals. Licenses are amended while pending renewal. The Department uses an electronic review sheet for each licensing action. This review sheet allows for an explanation of the licensing action and for tracking the status of the action. The review sheet is also used to record supervisory review of the licensing action.

The Department maintains original financial assurance instruments with Texas' Comptroller of Public Accounts and copies of supporting documents in the license files. Thirty-two of 33 licensees have the required financial assurance in effect. The Department is taking action to bring the one remaining licensee into compliance. Eighteen State agency licensees have submitted the required certifications. The review team concluded that the Department handles financial assurance appropriately.

The review team found that actions terminating licenses were well-documented and included the appropriate material survey records. The license terminations evaluation revealed a cross-section of licensees possessing both sealed sources and unsealed material. All files reviewed contained documentation of proper disposal or transfer.

The team noted that the Department does not routinely verify the disposition of large sealed sources when a licensee requests removal of the sealed source from their license. This was discussed with the Radiation Licensing Group management and they agreed that they should verify that sealed sources reach their intended disposal or transfer site prior to removing them from a license. In the future, the licensing staff will verify that the sources have been received by the recipient prior to deleting it from the senders license.

The Commission has regulatory responsibility for the burial of radioactive waste conducted under Texas regulations compatible to 10 CFR Part 20. One license has been terminated and the site released for unrestricted use. Licensing actions for the other two sites were reviewed. One site is in mediation. The other site's license was renewed and they continue to dispose of depleted uranium catalyst in their hazardous waste cell. There were no performance issues identified by the review team during the review of the Commission's files for this portion of the Commission's program.

During review of licensing casework, the review team identified two good practices being conducted by the Commission and the Department as noted: (1) The Commission and the Department include in the transmittal letter for amended licenses a description of the changes

(a roadmap) so that the changes are clearly identified; and (2) The Commission attached as an appendix to the active on-site disposal license the closure criteria for the closed disposal cells which keeps the as-closed conditions in the license even though new criteria have been established for the newer cells.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, Technical Quality of Licensing Actions, is satisfactory.

### 3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Department's actions in responding to incidents and allegations, the review team examined the Department's response to the questionnaire relative to this indicator and reviewed the incidents reported for Texas in NMED against those contained in the Department's casework and license files, and supporting documentation, as appropriate, for nine incidents. A list of the incident casework reviewed is included as Appendix E. The review team evaluated the Department's response to the eight allegations received during the review period involving radioactive materials including the five allegations referred to the Department by NRC.

The review team discussed the Department's incident and allegation procedures, file documentation, the Department's equivalent to the Freedom of Information Act, NMED, and notification of incidents to the NRC Operations Center with Department management and staff. Responsibility for initial response and follow-up actions to material incidents and allegations rests with the Incident Investigation Program within the Environmental Monitoring Group under the Radiation Branch. Written procedures exist for handling incidents and allegations referred to as "complaints" by the Department. The procedures require on-site investigations for each significant event and require actions to initiate a response to all allegations within 72 hours. All incidents and allegations are tracked using a numerical identification system which can be cross-referenced on the NMED report.

The 2001 IMPEP team had identified that the Department was not reporting significant or routine events in a timely manner as defined by STP Procedure SA-300, "Reporting Material Events." The Department continued to have timeliness issues in reporting incidents as noted during the periodic meetings conducted on December 2, 2002, June 8, 2004, and March 15, 2005. The Incident Investigation Program had staffing challenges during the review period. For the period of December 2002 to February 2005, the Incident Investigation Program was partially staffed. The Incident Investigation Program had only one incident investigator from June 2004 to February 2005. In February 2005, the Department lost the last member of their experienced incident investigation staff. The Department then shifted two staff from other program areas to fill the incident investigation positions. In preparation for the March 2005 periodic meeting, the Department completed a review of all reported incidents to identify any missed reportable events. These events were then reported to NRC, even though reported late. Since the March 2005 meeting, the Department has also conducted a completeness review of all the events that had been reported to NMED and is in the process of updating NMED with available information.

The Department had attempted to use the NMED system in 1998, but due to computer software compatibility issues, the Department continued to verbally report significant events to NRC's Operation Center and provided written event information to NRC's contractor. Because of the

continued reporting difficulties and the new incident investigation staff, the Department requested training on the NMED system. NRC's contractor provided training to the Incident Investigation Program staff in the Department's offices in June 2005. In July 2005, the Department began using the NMED system to report incidents.

The review team noted that the Department had received notifications within the review period of more than 500 incidents and allegations involving all types of radiation regulated by the Department. Since the Department does not differentiate between material covered under the Agreement with NRC (reportable) and other material incidents, the review team was unable to determine the number of reportable material incidents recorded in the Department's tracking system. The review team queried the NMED system and identified 175 reportable incidents out of a total of 246 reported by Texas during the review period. The review team evaluated the timeliness of the events reported and noted that the Department had reported approximately 20 percent of the reportable events late over the review period. The review team discussed the issue of reporting incidents and providing follow-up information with the Department. While the Department has made improvements in their Incident Investigation Program, these improvements have not been in place long enough for the review team to determine their effectiveness. Thus, as discussed in Section 2 above, the recommendation from the 2001 IMPEP report remains open.

The nine incidents selected for evaluation included three medical events, two events involving lost/stolen material, one misadministration, one procedure failure, two contamination events, two leaking sources, one event involving exposure to members of the public, one equipment failure and one transportation event. The review team found that the Department's response to incidents was complete and comprehensive. Initial responses were prompt and well-coordinated, and the level of effort was commensurate with the health and safety significance. Inspectors were dispatched for on-site investigations when appropriate and the Department took suitable enforcement action.

The evaluation of the eight allegation cases indicated that the Department took prompt and appropriate action in response to the alleged concerns. Through review of the casework and interviews with staff, the review team determined that the Department provided feedback to alleged either verbally or in writing when possible. Any alleged requesting anonymity is informed that every effort will be made to protect his/her identity, but cannot be guaranteed. All interviewed staff were knowledgeable of the Department's allegation procedure. There were no performance issues identified from the review of allegation files and documentation.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, is satisfactory, but needs improvement.

#### 4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State Programs: (1) Compatibility Requirements; (2) Sealed Source and Device Evaluation Program; (3) Low-level Radioactive Waste Disposal Program; and (4) Uranium Recovery Program.

## 4.1 Compatibility Requirements

### 4.1.1 Legislation

The legal authority for the Department is found in the Texas Radiation Control Act, Health and Safety Code, Chapter 401. The Department is designated as the State radiation protection agency with authority to regulate byproduct materials, source materials, and special nuclear materials in quantities not sufficient to form a critical mass. The Commission's legal authority for LLRW activities is found in Chapters 401 and 403 of the same Act. The Department and the Commission maintain a Memorandum of Understanding (MOU) that specifies the respective responsibilities of the two organization for the uranium recovery program.

For currently effective legislation that affects the radiation control program, Texas noted in the response to the questionnaire that their 78<sup>th</sup> Legislature added Sections 418.176 through 418.182 to Chapter 418 of the Government Code. These provisions make confidential certain information related to terrorism, including information "collected, assembled, or maintained by or for a governmental entity and is more than likely to assist in the construction or assembly of ... a radiological or nuclear weapon of mass destruction; or indicates the specific location of radioactive material that is more than likely to be used in the construction or assembly of such a weapon." Texas' Attorney General's Office has interpreted this to include all sources in the IAEA Categories I and II. This allow Texas to protect information from public disclosure that could be useful to a terrorist.

All Texas agencies are subject to sunset review by the Texas Sunset Commission. The Department was last reviewed in 2000 and the Commission was reviewed in 2001. The next sunset review will be 12 years from the previous review, or in 2012 and 2013 for the Department and the Commission, respectively.

### 4.1.2 Program Elements Required for Compatibility

The Department regulations for control of radiation are located in Title 25 of the Texas Administrative Code and apply to ionizing and non-ionizing radiation, whether emitted from radionuclides or devices. Texas requires a license for possession and use of radioactive materials, including naturally occurring and accelerator-produced radionuclides. The Commission's regulations for control of radiation and disposal of LLRW are located in Title 30 of the Texas Administrative Code.

The review team examined the procedures used in the Department's and the Commission's regulatory processes and found that the public and other interested parties are offered an opportunity to comment on proposed regulations. The NRC is provided with drafts for comment. With the State reorganization and creation of the Department, the Health and Human Services Council Executive Commissioner has statutory rulemaking authority. In addition, the State Health Services Council was established as an advisory council to the Department. The Texas Radiation Advisory Board was maintained as an advisory board charged with making recommendations on radiation control rules. The flow-chart of the new Department's internal rulemaking process is included in their response to the questionnaire. No Departmental rule has yet gone through the entire rulemaking process. It is estimated that radiation control rules may take anywhere from a year to 18 months to go from a draft stage to an effective rule under this new process.

In the response to the questionnaire, the Department noted that Government Code, Chapter 2001.039, requires Texas State agencies to assess whether the reasons for adopting each rule continue to exist and to review each rule to determine whether it is obsolete, whether it reflects current legal and policy considerations, and whether it reflects current procedures of the agency. As a part of this review, each agency is required to submit notice of intent to the Texas Register for publication. Each rule is required to be reviewed four years from the last effective date of the rule. Therefore, each Section of Title 25 of the Texas Administrative Code, Chapter 289 (Texas Regulations for Control of Radiation), has a different four-year review interval.

The review team evaluated the Department's response to the questionnaire, reviewed the status of regulations required to be adopted by the State under the NRC's adequacy and compatibility policy and verified the adoption of regulations with information contained on the State Regulation Status (SRS) sheet by the STP. Since the last IMPEP review, the Department adopted eight regulations in two rule packages that became effective in April 2003 and September 2004. The Department noted in the questionnaire that the SRS sheet was inaccurate in regards to rule adoption. After discussion between NRC and Department management, it was decided that the following amendments would be sent in for NRC review in final, to accurately reflect the status of regulation adoption:

- "Safety Requirements for Radiographic Equipment," 10 CFR Part 34 amendment (55 FR 843) that became effective on January 10, 1991.
- "Frequency of Medical Examinations for Use of Respiratory Protection Equipment," 10 CFR Part 20 amendment (60 FR 7900) that became effective on March 18, 1995.
- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20 and 61 amendment (60 FR 15649), (60 FR 25983) that became effective on March 1, 1995.
- "Medical Administration of Radiation and Radioactive Materials," 10 CFR Parts 20 and 35 amendment (60 FR 48623) that became effective on October 20, 1995.
- "Performance Requirements for Radiography Equipment," 10 CFR Part 34 amendment (60 FR 28323) that became effective on June 30, 1995.
- "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations," 10 CFR Part 34 amendment (63 FR 37059) that became effective on July 9, 1998.

In the response to the questionnaire, the Department stated that the following two amendments are covered by statute or by existing rule:

- "Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State," 10 CFR Part 150 amendment (62 FR 1662) that became effective on February 27, 1997.
- "Deliberate Misconduct by Unlicensed Persons," 10 CFR Parts 30, 40, 61, 70, 71 and 150 amendment (63 FR 1890), (63 FR 13773) that became effective on February 12, 1998.

A regulations package containing these two amendments will be sent in for NRC review in the near future.

The Department's response to the questionnaire identified that the following two overdue rules are in the rulemaking process:

- "Respiratory Protection and Controls to Restrict Internal Exposure," 10 CFR Part 20 amendment (64 FR 54543), (64 FR 55524) that became effective on February 2, 2000.
- "Revision of the Skin Dose Limit," 10 CFR Part 20 amendment (67 FR 16298) that became effective on April 5, 2002.

These rules were published on September 16, 2005 as proposed rules, and a regulations package is being prepared to be sent in for NRC review.

The Department had previously submitted their new medical rules to NRC for review prior to NRC's completion of its rulemaking process; therefore, NRC did not have a final rule to do a comparison at that time. The Department stated that the following will soon be submitted to STP for regulation review as a final rule:

- "Medical Use of Byproduct Material," 10 CFR Parts 20, 32, and 35 amendment (67 FR 20249) that became effective on October 24, 2002.

While not currently due, the Department wanted to inform the review team that the rule would be submitted for review within the allotted timeframe for Agreement State adoption.

The review team identified the following regulation changes and adoptions that will be needed in the future, and Department management indicated that the regulations would be addressed in upcoming rulemaking, incorporation by reference, or by adopting alternate legally binding requirements:

- "Financial Assurance for Materials Licensees," 10 CFR Parts 30, 40, and 70 amendment (68 FR 57327) that became effective December 3, 2003.
- "Compatibility with IAEA Transportation Safety Standards and Other Transportation Safety Amendments," 10 CFR Part 71 amendment (69 FR 3697) that became effective October 1, 2004.
- "Medical Use of Byproduct Material - Recognition of Specialty Boards," 10 CFR Part 35 amendment (70 FR 16336) that became effective April 29, 2005.
- "Security Requirements for Portable Gauges Containing Byproduct Material," 10 CFR Part 30 amendment (70 FR 2001) that became effective July 11, 2005.

The Commission's response to the questionnaire identified that the following two rules were adopted:

- "Respiratory Protection and Controls to Restrict Internal Exposure," 10 CFR Part 20 amendment (64 FR 54543), (64 FR 55524) that became effective on February 2, 2000.

- “Revision of the Skin Dose Limit,” 10 CFR Part 20 amendment (67 FR 16298) that became effective on April 5, 2002.

The review team identified the following regulation changes and adoptions that will be needed in the future, and Commission management indicated that the regulations would be addressed in upcoming rulemaking, incorporation by reference, or by adopting alternate legally binding requirements:

- “Financial Assurance for Materials Licensees,” 10 CFR Parts 30, 40, and 70 amendment (68 FR 57327) that became effective December 3, 2003.
- “Compatibility with IAEA Transportation Safety Standards and Other Transportation Safety Amendments,” 10 CFR Part 71 amendment (69 FR 3697) that became effective October 1, 2004.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas’ performance with respect to the indicator, Compatibility Requirements, is satisfactory.

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

In assessing the Texas SS&D evaluation program, the review team examined the information provided in response to the IMPEP questionnaire, evaluated SS&D registry sheets issued during the review period, and the supporting document files. The team also evaluated SS&D staff training records, certain reported incidents involving products authorized in Texas SS&D sheets, the use of guidance documents and procedures, and interviewed the staff currently conducting SS&D evaluations. Three sub-indicators were used to evaluate the Department’s performance regarding their SS&D Evaluation Program. These sub-indicators were (1) Technical Staffing and Training; (2) Technical Quality of the Product Evaluation Program; and (3) Evaluation of Defects and Incidents Regarding SS&Ds.

##### 4.2.1 Technical Staffing and Training

SS&D evaluation responsibilities are distributed among the license review staff. The evaluation staff currently consists of a lead license reviewer (0.25 FTE) and six secondary reviewers (0.05 FTE each). The Department has identified five license reviewers going through training for SS&D evaluation but are not yet qualified.

New staff members develop SS&D evaluation experience by working with senior members on evaluations, sometimes signing as a second concurrence signature, then by performing concurrence reviews by themselves, and finally by performing the initial reviews on SS&D applications. Assignment of casework is determined by the SS&D supervisor, with most staff specializing in either industrial or medical.

The review team examined the training and experience documentation of the staff and management involved in the evaluation program. The review team noted a blend of senior and junior reviewers and a schedule for training new staff. The educational qualifications for the current staff were evaluated and were found adequate.

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

The review team evaluated 6 of the approximately 76 SS&D evaluation amendments, inactivations, and new registrations, which do not include the 15 SS&D registrations of NARM isotopes, the Department completed during the review period, representing the work of five SS&D reviewers. The cases selected were representative of the Program's licensees and SS&D reviewers. The Department stated that they currently manage 146 active SS&D registrations. A list of SS&D casework examined along with case-specific comments may be found in Appendix F.

Analysis of the casework and interviews with staff confirmed that the Department generally follows the recommended guidance from the NRC SS&D training workshops, NUREG-1556, Volume 3. All applicable and pertinent American National Standards Institute standards, NUREG-1556 Series, NRC or Texas Regulatory Guides, and applicable references were confirmed to be available and were used appropriately in performing the SS&D reviews. The Department has regulations specific to SS&D requirements and legally do not need to incorporate SS&D commitments into the license document for them to be legally enforceable. In reviewing emergent technology related products and new applications, the Department performed evaluations based on sound conservative assumptions to ensure public health and safety and also sought the input from other licensing jurisdictions that have experience with similar products. Appropriate review checklists were used to assure that all relevant materials were submitted and reviewed. The checklists are retained in the case files. Registrations clearly summarized the product evaluation and provided license reviewers with adequate information in the Limitations and Considerations of Use section on areas requiring additional attention to license the possession, use, and distribution of the products. The review team identified a few inconsistencies that were present in some files, but these were of a formatting nature and did not affect the technical quality of the evaluation itself.

The review team determined that product evaluations were thorough, complete, consistent, and adequately addressed the integrity of the products during use and in the event of likely accidents. While the licensing staff obtains and documents adequate quality assurance and quality control programs (QA/QC) for each SS&D registration, the review team determined that the Department does not determine that these QA/QC programs are actually implemented by the licensee. The review team recommends that the Department develop and implement an inspection program to verify that the QA/QC requirements in the SS&Device Registry sheets are being implemented by the manufacturer.

The review team discussed a few general issues with Department staff. This included the need to amend some sheets that indicated that Special Nuclear Materials may be distributed under a general license. The Department is currently working with the manufacturer to delete this from the registrations. Also the review team estimates that there are at least 40, SS&D sheets that are listed as active, but are currently either no longer being made/distributed or the licensee has gone out of business. While NUREG-1556, Volume 3, places the burden of inactivating sheets on the registry holder, the review team discussed with the Department that they consider development of a long range plan to inactivate these sheets.

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

No occurrences in Texas of incidents or events related to defects or performance of SS&Ds were reported to the Department during the review period for devices registered by the



Department. The Department has not received notification of any potential generic SS&D issues discovered during NRC trend analysis of NMED events identified in accordance with NRC in Policy and Procedure Letter 1.57, NMSS Generic Assessment Process as stated in STP Procedure SA-108. Due to the large number of active SS&D sheets the Department manages, the review team suggested that the Department develop a plan to periodically determine if any products defects or failures have occurred in other States. This would allow the Department to identify potential generic issues specific to Texas registered devices. There were no generic design or performance issues identified from the review of SS&D incident files and documentation. No allegations related to SS&Ds were reported during the review period.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, SS&D Evaluation Program, is satisfactory.

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

The review team focused on five factors in reviewing the LLRW Disposal Program performance indicator: (1) Technical Staffing and Training; (2) Status of LLRW Inspection; (3) Technical Quality of Inspections; (4) Technical Quality of Licensing Actions; and (5) Technical Quality of Incident and Allegation Activities. Based on the current status of the LLRW site licensing in Texas, not all the sub-indicators apply to the program at this time. The results of the LLRW disposal program review will be discussed under each of these sub-indicators.

The regulatory responsibility for LLRW disposal remains with the Commission. On May 31, 2003, the Texas legislature passed the bill that authorizes a private entity to own a commercial LLRW disposal facility. The Commission's Radioactive Material Licensing (RML) team is currently reviewing a August 4, 2004, license application by Waste Control Specialists, LLC (WCS) to receive, handle, process, store, and dispose of LLRW at a site near Andrews, Texas. The license application was declared administratively complete February 18, 2005. On April 26, 2005, the Commission provided an evaluation of merit of the application, as required by Texas law. Since that date, Commission staff has been fully involved in performing the technical review of the application. On July 20, 2005, the Commission provided WCS a courtesy letter that highlighted numerous issues that would likely be provided in the first official Technical Notice of Deficiency, to allow the applicant additional time to adequately address these issues. As of the IMPEP review, the Commission had not finalized the first official Technical Notice of Deficiency.

##### 4.3.1 Technical Staffing and Training

The RML team currently has eight full-time and/or part-time staff members as well as seven contractors with a total staffing effort level of 7.5 FTE. The LLRW program is also supported by other Sections within the Commission and by various contractors. The staff and contractors currently supporting the LLRW program include the RML team leader, a Technical Advisor/Health Physicist, an administrative assistant, and staff and contractors with diversified backgrounds in health physics, nuclear engineering, hydrogeology, geology, geotechnical engineering, anthropology, financial assurance, ecology, land/mineral rights, law, and civil engineering. Since the last review in 2001, two staff associated with the LLRW program left the program. The RML team hired or acquired from other portions of the organization six staff members to assist in the conduct of LLRW activities. The review team determined that the

current staffing has the right mix of technical expertise and is adequate to maintain the quality and performance of the LLRW program.

The RML team has a documented training and qualification program for staff to perform licensing, inspection, and investigation for LLRW activities. The team has an established procedure for staff training consistent with the NRC/OAS Joint Working Group Report and MC 1246. The RML team leader has established plans for new staff training and for staff assigned to carry out new duties.

The review team examined the training and qualification records of the staff and found them up-to-date and complete. The review team determined that most of the staff attended the required training and recommended training courses in accordance with the Commission requirements and consistent with MC 1246.

Based on interviews with the professional and administrative staff and an examination of staff qualifications, duties, and functions, the review team concluded that the LLRW staff is qualified with sufficient training to carry out regulatory duties regarding licensing of a proposed LLRW site.

#### 4.3.2 Status of LLRW Disposal Inspection

Based on the current status of the program, the review team did not have any inspection activities to review for this sub-indicator. The RML staff did perform a pre-licensing site visit in June 2005, and some members of the staff accompanied a team from the hazardous waste portion of the Waste Permits Division to review a fault found during construction at the licensed hazardous waste disposal cell, that is co-located on site.

#### 4.3.3 Technical Quality of Inspections

Based on the current status of the LLRW program, the review team did not have any inspection activities to review for this sub-indicator.

#### 4.3.4 Technical Quality of Licensing Actions

The RML team currently is reviewing the license application by WCS to receive, handle, process, store, and dispose of LLRW at a site near Andrews, Texas. The license application was declared administratively complete February 18, 2005.

The review team reviewed the third Administrative Notice of Deficiency (dated January 14, 2005), the Evaluation of Merit (dated April 26, 2005), the courtesy letter (dated July 20, 2005), the Commission guidance document for a license application titled, "Application for License to Authorize Near-Surface Land Disposal of Low-Level Radioactive Waste" (dated January 23, 2004), the Commission guidance document for performing performance assessment titled, "Performance Assessment: A Method to Quantitatively Demonstrate Compliance with Performance Objectives for LLRW Facilities," and interviewed most of the staff involved in the preparation of these documents. The team found that these documents were thorough, complete, consistent, and of acceptable technical quality.

The review team and the RML staff discussed performance assessment approaches and methodologies used to review WCS's demonstration of compliance with State dose criteria.

The review team noted that NRC staff's recommended performance assessment methodology and approaches documented in NUREG-1573, "Performance Assessment Methodology for LLRW Disposal Facilities - Recommendations of NRC's Performance Assessment Working Group," were incorporated in the Commission's guidance. Limited independent analyses had been performed by the staff to date, although staff indicated that, where warranted, independent analyses would be conducted in later parts of the review.

#### 4.3.5 Technical Quality of Incident and Allegation Activities

The review team found that the RML team has procedures in place for handling incidents and allegations. The procedures for handling incidents include information on what constitutes an incident, appropriate documentation of the incident, reference to NRC abnormal occurrences criteria, and tracking the incident by management. The procedures for handling allegations include information on protecting the identity of the alleged, documentation of the allegation, and tracking the allegation by management.

During the review period, there were no incidents or allegations pertaining to the LLRW program.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, LLRW Disposal Program, is satisfactory.

#### 4.4 Uranium Recovery Program

In conducting this review, five sub-indicators were used to evaluate the Department's performance regarding the uranium recovery program. These sub-indicators include: (1) Technical Staffing and Training; (2) Status of Uranium Recovery Inspection Program; (3) Technical Quality of Inspections; (4) Technical Quality of Licensing Actions; and (5) Technical Quality of Incident and Allegation Activities. The results of the uranium recovery program review will be discussed under each of these sub-indicators.

Under an MOU (see Section 4.1.1) between the Department and the Commission regarding in-situ uranium mining, the Department has primary responsibility for the licensing, inspection, and enforcement activities for aboveground process plant facilities, including the review of the design, construction, operation, record keeping, maintenance, and decommissioning, decontamination, and surface reclamation. The Commission has primary responsibility for the permitting, inspection, and enforcement activities for all wells permitted by the underground injection control (UIC) program, wellhead assemblies, and groundwater monitoring requirements. Both agencies are responsible for the review, permitting, licensing, inspection, and enforcement activities for fluid holding ponds. The Department now has the responsibility for the licensing, inspection, and reclamation of conventional uranium mill facilities.

At the time of the IMPEP review, Texas had three conventional mill licenses (three sites currently under reclamation, but substantially finished with construction activities), four in-situ licenses, and reclamation oversight of one revoked in-situ license. The Department is reviewing an application from WCS to construct a new 11e.(2) byproduct disposal facility in west Texas. Because the price of uranium has substantially increased, the Department has received inquiries from potential applicants for two new in-situ facilities. These applications are anticipated within six months, with the potential for more applications if the price of uranium continues to rise.

#### 4.4.1 Technical Staffing and Training

Licensing activities in the Department for in-situ and conventional uranium recovery facilities are conducted by the Radiation Safety Licensing Branch, Technical Assessments Group. The uranium recovery staff consists of four technical staff reporting to the Manager of the Technical Assessments Group. The technical staff have expertise in various technical disciplines (i.e. health physics, hydrogeology, and engineering). The review team examined the training and qualifications of the personnel and interviewed Department staff. The hydrogeologist came to the program in 2002 and the two engineers have only been with the Department since April 2005. Even though three of the technical staff are new to the Department, the staff is well qualified by education and experience to carry out uranium recovery activities.

The Department does have a training plan that addressed the necessary training for the review of reclamation plans and licensing activities at in-situ and conventional uranium mills. Texas has a cap on out-of-state travel so the training plan has considered that limitation for each staff member.

With the WCS application review for a new 11e.(2) byproduct material disposal facility, and the renewed interest in applications for new in-situ uranium recovery facilities, the review team does not consider the current number of current staff sufficient to accomplish the workload. There has been a backlog of work in the uranium recovery program which has grown larger. Examples of the backlog of uranium recovery work are: required annual surety reviews are not being conducted; groundwater evaluations at the conventional mills are in the early stages with corrective action assessments, ecological and human health risk assessments not yet conducted and reviewed as needed; and the 2001 IMPEP recommendation that the Department prepare necessary supporting documentation associated with reclamation plan approvals for the three conventional mills has not been addressed. The root cause of this backlog of work is the staff turnover and inadequate staffing level. The review team recommends that the Department conduct an evaluation of the uranium recovery program workload and hire the necessary staff to adequately address the workload.

#### 4.4.2 Status of Uranium Recovery Inspection Program

The inspection program for both conventional and in-situ uranium facilities has set inspection priorities at one-year frequency, consistent with MC 2800 and MC 2801. Some inspections are conducted more frequently (e.g., every six months) when escalated enforcement actions are warranted. Currently, there are no overdue inspections. Although the uranium recovery inspection position has been vacant, a qualified uranium recovery inspector from the materials program has conducted the inspections.

#### 4.4.3 Technical Quality of Inspections

In reviewing this sub-indicator, the review team examined inspection files, inspection reports, and enforcement documentation. These reviews indicated that inspections of uranium recovery facilities adequately covered the scope, completeness, and technical accuracy to determine compliance with regulations, license conditions, and available guidance. Appropriate enforcement actions were taken both by the Department and the Commission given the scope of the violations noted. The inspections were thorough, including operations and records, and the violations were communicated with licensees at exit interviews. However, it was noted that letters to licensees documenting the inspection results were sent consistently beyond the 30

day timeframe. In some cases, letters were sent 60-90 days after the inspection had been conducted. The delay in the issuance of inspection findings is discussed in Section 3.2 above. The team also determined that supervisory inspection accompaniments are performed annually, in accordance with written procedures. Appendix C lists the inspection casework files reviewed for completeness and accuracy.

There were no accompaniments of either Department or Commission inspectors of a uranium recovery facility as part of this IMPEP review.

#### 4.4.4 Technical Quality of Licensing Actions

The team examined files and documentation related to licensing in-situ and conventional mill facilities, license amendment files, and other licensing documentation. Based on these reviews, the team concluded that licensing actions were appropriate and that license conditions were clear and well-written. Requirements associated with these conditions were based on a need to meet regulations and to protect health and safety. Appendix D lists the licensing files reviewed for completeness and accuracy.

The review team discussed the Department's progress in development of documentation of reclamation plans at three conventional uranium mill sites in South Texas. The lack of documentation poses a major issue to the Department since: (1) Section 274(c) of the AEA requires that, before a license can be terminated at a conventional uranium mill, an Agreement State must determine that all applicable standards and regulations have been met; and (2) NRC must concur in the State's determination that the standards and requirements have been met, based on a review of the State's bases for making such a determination. Thus, as discussed in Section 2 above, the recommendation from Section 4.4.4 of the 2001 IMPEP report remains open.

#### 4.4.5 Technical Quality of Incident and Allegation Activities

During the review period, only one minor incident, an on-site pipe leak at an in-situ facility, was reported. The Department followed up on this incident; however, there was no documentation in the file which documented the Department's review and closed out the incident. This was discussed with Department staff at the conclusion of the IMPEP review, and it was agreed that documentation closing out all incidents, including minor ones, would now be included in the file. No allegations were reported during this review period.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Texas' performance with respect to the indicator, Uranium Recovery Program, is satisfactory.

## 5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found Texas' performance to be satisfactory but need improvement for four of the nine performance indicators. The review team found the other five performance indicators to be satisfactory. Accordingly, the review team recommended and the MRB agreed that the Texas Agreement State program be found adequate but needs improvement and compatible with NRC's program. Based on the results of the current IMPEP review, the review team recommended and the MRB agreed that the State of Texas remain on heightened oversight and that a follow-up review be conducted in

approximately one year.

Below are the recommendations, as mentioned earlier in the report, for evaluation and implementation, as appropriate, by the State.

#### RECOMMENDATIONS FOR THE STATE:

1. The review team recommends that the Department hire and retain sufficient qualified staff to return and maintain the program at a satisfactory performance level. (Section 3.1)
2. The review team recommends that the Department review their process for issuance of inspection letters and develop a process that will allow the 31-day issuance goal for routine cases to be achieved on a consistent basis. (Section 3.2)
3. The review team recommends that the State adhere to the policy of annual supervisory accompaniments of all qualified inspectors. (Section 3.3) (Open recommendation from the 2001 IMPEP report)
4. The review team recommends that the State develop a process to ensure that inspections are performed in accordance with their own performance-based inspection procedures. (Section 3.3)
5. The review team recommends that the Department report all significant and routine events, as well as follow-up event information, to the NRC in accordance with STP Procedure SA-300, "Reporting Material Events." (Section 3.5) (Open recommendation from the 2001 IMPEP report)
6. The review team recommends that the Department develop and implement an inspection program to verify that the QA/QC requirements in the SS&D Registry sheets are being implemented by the manufacturer. (Section 4.2.2)
7. The review team recommends that the Department conduct an evaluation of the uranium recovery program workload and hire the necessary staff to adequately address the workload. (Section 4.4.1)
8. The review team recommends that the Department prepare necessary supporting documentation identifying the bases for the licensing actions associated with reclamation plans for the three conventional mills. (Section 4.4.4) (Open recommendation from the 2001 IMPEP report)

#### GOOD PRACTICES:

The review team identified two good practices being conducted by the Commission and the Department as stated below.

1. The Commission and the Department include in the transmittal letter for amended licenses a description of the changes (a roadmap) so that the changes are clearly identified.

2. The Commission attached as an appendix to the active on-site disposal license the closure criteria for the closed disposal cells which keeps the as-closed conditions in the license even though new criteria have been established for the newer cells.

## LIST OF APPENDICES AND ATTACHMENTS

Appendix A	IMPEP Review Team Members
Appendix B	Texas Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Appendix F	Sealed Source & Device Casework Reviews
Attachment 1	November 15, 2005 Letter from Richard Bays Texas' Response to Draft IMPEP Report
Attachment 2	Comment Resolution on the 2005 Texas Draft IMPEP Report



## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Dennis Sollenberger, STP	Team Leader Technical Staffing and Training
Vivian Campbell, Region IV	Technical Quality of Inspections Inspection Accompaniments (assisted by Richard Leonardi) Technical Quality of Incident and Allegation Activities
Michael Snee, Ohio	Technical Quality of Licensing Actions
Chris McKenney, NMSS	LLRW Disposal Program (assisted by James Shaffner)
William Rautzen, STP	Status of Materials Inspection Program Compatibility Requirements
Michael Stephens, Florida	SS&D Evaluation Program
Dorothy Stoffel, Washington	Uranium Recovery Program

APPENDIX B

TEXAS

ORGANIZATION CHARTS

ADAMS: ML052860195

## APPENDIX C

### INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY. NO EVIDENCE OF LICENSED OPERATIONS BEING OBSERVED OR STAFF PERSONNEL INTERVIEWED REGARDING LICENSED ACTIVITIES IS A COMMON COMMENT FOR THE INSPECTION FILES, EXCEPT WHEN FIELD INSPECTIONS WERE CONDUCTED. FOR BREVITY, THIS COMMENT WILL NOT BE REPEATED.

#### TEXAS DEPARTMENT OF STATE HEALTH SERVICES

File No.: 1

Licensee: Precision Energy Services Inc.

Inspection Type: Routine, Unannounced

Inspection Date: 6/8/05

License No.: L04286

Priority: 1/NRC 3

Inspector: MU

Comment:

Compliance letter issued 85 days after inspection.

File No.: 2

Licensee: Precision Energy Services Inc.

Inspection Type: Routine, Unannounced

Inspection Date: 2/18/05

License No.: L04286

Priority: 1/NRC 3

Inspector: RA

Comment:

Compliance letter issued 115 days after inspection.

File No.: 3

Licensee: Precision Energy Services Inc.

Inspection Type: Routine, Announced

Inspection Date: 1/26/05

License No.: L04286

Priority: 1/NRC 3

Inspector: SF

Comment:

Compliance letter issued 57 days after inspection.

File No.: 4

Licensee: Precision Energy Services Inc.

Inspection Type: Routine, Unannounced

Inspection Date: 3/17/05

License No.: L04286

Priority: 1/NRC 3

Inspector: SP

Comment:

Compliance letter, no violations noted, issued 32 days after inspection.

File No.: 5

Licensee: Texas Gamma Ray LLC  
Inspection Type: Routine, Unannounced  
Inspection Date: 5/12/05

License No.: L05561  
Priority: 1  
Inspector: HD

Comments:

- a) Inspection report stated that average exposure to personnel was 25 rem. PSQA reviewer contacted inspector during IMPEP review and confirmed that record was in error. File corrected.
- b) Compliance letter issued 76 days after inspection.

File No.: 6

Licensee: Texas Gamma Ray LLC  
Inspection Type: Routine, Unannounced  
Inspection Date: 3/22/04

License No.: L05561  
Priority: 1  
Inspector: HD

Comment:

Compliance letter issued 107 days after inspection, but a significant enforcement action.

File No.: 7

Licensee: Tin Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 8/19/02

License No.: L01029  
Priority: 3/NRC 5  
Inspector: HD

Comment:

Compliance letter issued 38 days after inspection.

File No.: 8

Licensee: Midland County Hospital District  
Inspection Type: Routine, Announced  
Inspection Date: 9/16/04

License No.: L00728  
Priority: 3/NRC 5  
Inspector: GS

File No.: 9

Licensee: Saint Joseph Regional Health Center  
Inspection Type: Routine, Announced  
Inspection Date: 4/22/04

License No.: L00573  
Priority: 2/NRC 3  
Inspector: SP

Comment:

Compliance letter issued 84 days after inspection.

File No.: 10

Licensee: Baylor University  
Inspection Type: Routine, Unannounced  
Inspection Date: 8/24/01

License No.: L00400  
Priority: 1/ NRC 3  
Inspector: CD

Comment:

Compliance letter, no violations noted, issued 48 days after inspection.

File No.: 11

Licensee: University of Texas Southwestern Medical Center at Dallas  
Inspection Type: Routine, Announced  
Inspection Date: 11/19/03

License No.: L00384  
Priority: 1/NRC 2  
Inspector: CL

File No.: 12

Licensee: Halliburton Energy Services Inc.  
Inspection Type: Routine, Announced  
Inspection Dates: 9/15-16/04

License No.: L00442  
Priority: 1/NRC 3  
Inspector: LC

File No.: 13

Licensee: Sterigenics US Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 11/4/03

License No.: L03851  
Priority: 1/NRC 2  
Inspector: CL

File No.: 14

Licensee: Coastal Wireline Services Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 3/13/03

License No.: L04239  
Priority: 2/NRC 3  
Inspector: LC

File No.: 15

Licensee: Texas A&M University  
Inspection Type: Routine, Announced  
Inspection Date: 4/19/02

License No.: L00448  
Priority: 2/NRC 3  
Inspector: CL

File No.: 16

Licensee: Baylor University  
Inspection Type: Routine, Announced  
Inspection Date: 3/1/04

License No.: L00343  
Priority: 2/NRC 3  
Inspector: SP

File No.: 17

Licensee: National Scientific Balloon Facility  
Inspection Type: Routine, Announced  
Inspection Date: 12/11/03

License No.: L04717  
Priority: 2/NRC 3  
Inspector: SF

File No.: 18

Licensee: Southern Methodist University  
Inspection Type: Routine, Announced  
Inspection Date: 5/10/04

License No.: L02887  
Priority: 2/NRC 3  
Inspector: GS

File No.: 19

Licensee: Cardinal Health  
Inspection Type: Routine, Unannounced  
Inspection Date: 6/29/04

License No.: L02033  
Priority: 1/NRC 2  
Inspector: RW

Comment:

Compliance letter, no violations noted, issued 51 days after inspection.

File No.: 20

Licensee: Nuclear Sources and Services Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 4/27/05

License No.: L02991  
Priority: 0.5/NRC 2  
Inspector: ES

Comment:

Compliance letter, no violations noted, issued 75 days after inspection.

File No.: 21

Licensee: Alcon Laboratories Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 9/21/04

License No.: L01281  
Priority: 1/NRC 5  
Inspector: CL

File No.: 22

Licensee: Alcon Laboratories Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 9/17/02

License No.: L01281  
Priority: 1/NRC 5  
Inspector: CL

File No.: 23

Licensee: Big Springs Hospital Corp.  
Inspection Type: Routine, Unannounced  
Inspection Date: 5/20/03

License No.: L00763  
Priority: 3/NRC 5  
Inspector: JH

Comment:

Compliance letter, no violations noted, issued 58 days after inspection.

File No.: 24

Licensee: Diagnostic Nuclear Imaging  
Inspection Type: Routine, Unannounced  
Inspection Dates: 2/2-3, 2/11, and 2/25/05

License No.: L05769  
Priority: 3/NRC 5  
Inspectors: KZ,JO

Comment:

Compliance letter issued 122 days after inspection.

File No.: 25

Licensee: Longview Inspection, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 3/17/05

License No.: L01774  
Priority: 1  
Inspector: HD

Comment:

Compliance letter, no violations noted, issued 47 days after inspection.

File No.: 26

Licensee: Longview Inspection, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 2/28/05

License No.: L01774  
Priority: 1  
Inspector: GS

Comment:

Licensee has not responded as of the date of the IMPEP review. Reviewer found no follow-up letter requesting a response in the file.

File No.: 27

Licensee: Longview Inspection, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 9/30/04

License No.: L01774  
Priority: 1  
Inspector: SF

File No.: 28

Licensee: Longview Inspection, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Dates: 5/8-9/03

License No.: L01774  
Priority: 1  
Inspector: RG

File No.: 29

Licensee: Christus Spohn Health System Corporation  
Inspection Type: Routine, Unannounced  
Inspection Date: 9/6/01

License No.: L02390  
Priority: 2/NRC 3  
Inspector: JC

File No.: 30

Licensee: URI INC Kingsville Dome  
Inspection Type: Routine, Unannounced  
Inspection Date: 7/13/05

License No.: L03653  
Priority: 1  
Inspector: ES

Comment:

One violation noted by the inspector. The NOV letter had not been issued at the time of the review (>60 days).

File No.: 31

Licensee: Mestena Uranium  
Inspection Type: Routine, Unannounced  
Inspection Date: 5/11/05

License No.: L05360  
Priority: 1  
Inspector: ES

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

File No.: 32

Licensee: Solutia Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 4/29/02

License No.: RW0219  
Priority: 2  
Inspector: MA

File No.: 33

Licensee: Solutia Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 6/21/04

License No.: RW0219  
Priority: 2  
Inspector: MA

File No.: 34

Licensee: Solutia Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 8/12/04

License No.: RW0219  
Priority: 2  
Inspector: MA

File No.: 35

Licensee: Solutia Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 4/21/05

License No.: RW0219  
Priority: 2  
Inspector: MA

File No.: 36

Licensee: Iso-Tex, Incorporated  
Inspection Type: Routine, Unannounced  
Inspection Date: 1/10/02

License No.: RW1937  
Priority: 2  
Inspector: MA

File No.: 37

Licensee: Iso-Tex, Incorporated  
Inspection Type: Routine, Unannounced  
Inspection Date: 11/5/04

License No.: RW1937  
Priority: 2  
Inspector: MA

File No.: 38

Licensee: Iso-Tex, Incorporated  
Inspection Type: Follow up, Unannounced  
Inspection Date: 4/20-21/05

License No.: RW1937  
Priority: 2  
Inspector: MA

#### INSPECTOR ACCOMPANIMENTS OF DEPARTMENT STAFF

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

Accompaniment No.: 1

Licensee: Texas Womens University  
Inspection Type: Routine, Announced  
Inspection Date: 8/2/05

License No: L00304  
Priority: 1/NRC 3  
Inspector: SP

Accompaniment No.: 2

Licensee: Schlumberger Technology Corporation  
Inspection Type: Routine, Unannounced  
Inspection Date: 8/9/05

License No: L01833  
Priority: 1/NRC 3  
Inspector: MU

Comments:

- a) No interviews of staff radiation workers, who were on site, or observations of licensed activities.
- b) Inspection focused primarily on records and discussions with responsible radiation safety personnel.

Accompaniment No.: 3

Licensee: Spohn Health Systems  
Inspection Type: Routine, Announced  
Inspection Date: 8/10/05

License No: L02495  
Priority: 2/NRC 3  
Inspector: RW

Comment:

Inspector failed to observe chief nuclear medicine technologist assay a dose without using extremity dosimetry or gloves because focused on collecting information for the detailed report.

Accompaniment No.: 4

Licensee: Spohn Health Systems  
Inspection Type: Routine, Announced  
Inspection Date: 8/10/05

License No: L02357  
Priority: 2/NRC 5  
Inspector: RW



Accompaniment No.: 5  
Licensee: Medi Physics, Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 9/6/05

License No: L05529  
Priority: 1/NRC 2  
Inspector: GS

Comments:

- a) No licensed activities observed or staff radiation workers interviewed.
- b) Inspection focused primarily on records and discussions with responsible radiation safety personnel.

Accompaniment No.: 6  
Licensee: CHCA Womans Hospital LP  
Inspection Type: Routine, Announced  
Inspection Date: 9/8/05

License No.: L04834  
Priority: 2/NRC 3  
Inspector: KZ

Comments:

- a) No licensed activities ongoing during inspection. However, no request was made to the personnel to demonstrate, or explain selected licensed activities.
- b) The primary focus of the inspection was a record review and collection of data.

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY.

TEXAS DEPARTMENT OF STATE HEALTH SERVICES

File No.: 1 Licensee: Columbia/St. Davids Healthcare System LP Type of Action: New Date Issued: 1/11/05	License No.: L05856 Amendment No.: 00 License Reviewer: HW
File No.: 2 Licensee: Conam Inspection & Engineering, Inc. Type of Action: Amendment Date Issued: 2/22/05	License No.: L05010 Amendment No.: 87 License Reviewer: BS
File No.: 3 Licensee: Texas Gamma Ray LLC Type of Action: New Date Issued: 5/31/02	License No.: L05561 Amendment No.: 00 License Reviewer: MD
File No.: 4 Licensee: Halliburton Energy Services, Inc. Type of Action: Renewal Date Issued: 3/30/05	License No.: L00442 Amendment No.: 103 License Reviewer: DF
File No.: 5 Licensee: Univ. of Texas - MD Anderson Medical Center Type of Action: Amendment Date Issued: 7/31/04	License No.: L00466 Amendment No.: 91 License Reviewer: FT
File No.: 6 Licensee: Independent Testing Laboratories Type of Action: Termination Date Issued: 12/16/04	License No.: L03795 Amendment No.: 31 License Reviewer: WS
File No.: 7 Licensee: Texas Tech Univ. - Health Sciences Center Type of Action: Renewal Date Issued: 5/31/05	License No.: L01869 Amendment No.: 74 License Reviewer: HW
File No.: 8 Licensee: Presbyterian Hospital of Dallas Type of Action: Amendment Date Issued: 2/17/05	License No.: L01586 Amendment No.: 82 License Reviewer: PS

File No.: 9

Licensee: Thermo Measuretech  
Type of Action: Amendment  
Date Issued: 7/8/05

License No.: L03524  
Amendment No.: 67  
License Reviewer: DF

File No.: 10

Licensee: Qualitex Industrial X-Ray  
Type of Action: Termination  
Date Issued: 8/31/04

License No.: L04079  
Amendment No.: 15  
License Reviewer: MD

File No.: 11

Licensee: Colorado Fayette Medical Center  
Type of Action: Termination  
Date Issued: 7/22/05

License No.: L03470  
Amendment No.: 15  
License Reviewer: HW

File No.: 12

Licensee: Coastal Wireline Services, Inc.  
Type of Action: Renewal  
Date Issued: 5/26/04

License No.: L04239  
Amendment No.: 08  
License Reviewer: BT

File No.: 13

Licensee: Midland County Hospital District  
Type of Action: Renewal  
Date Issued: 5/12/05

License No.: L00728  
Amendment No.: 75  
License Reviewer: PS

File No.: 14

Licensee: Presbyterian Hospital of Winnsboro  
Type of Action: Amendment  
Date Issued: 8/5/04

License No.: L03336  
Amendment No.: 18  
License Reviewer: FT

File No.: 15

Licensee: Ludlum Measurements, Inc.  
Type of Action: Amendment  
Date Issued: 4/27/05

License No.: L01963  
Amendment No.: 69  
License Reviewer: DF

File No.: 16

Licensee: Computalog Wireline Services, Inc.  
Type of Action: Amendment  
Date Issued: 3/1/05

License No.: L04286  
Amendment No.: 54  
License Reviewer: WS

File No.: 17

Licensee: Texas Department of Transportation  
Type of Action: Renewal  
Date Issued: 9/30/04

License No.: L00197  
Amendment No.: 104  
License Reviewer: MD

File No.: 18  
Licensee: The Dow Chemical Company  
Type of Action: New  
Date Issued: 12/30/04

License No.: L05829  
Amendment No.: 00  
License Reviewer: BS

File No.: 19  
Licensee: Cardinal Health  
Type of Action: Amendment  
Date Issued: 1/6/04

License No.: L02033  
Amendment No.: 96  
License Reviewer: FT

File No.: 20  
Licensee: Alcon Laboratories, Inc.  
Type of Action: Amendment  
Date Issued: 12/16/04

License No.: L01281  
Amendment No.: 40  
License Reviewers: DF

File No. 21  
Licensee: ExxonMobil Corporation  
Type of Action: Amendment of Reclamation Plan  
Date Issued: 7/09/05

License No.: L01431  
Amendment No.: 10  
License Reviewers: UR Team

File No. 22  
Licensee: Mestena Uranium  
Type of Action: New  
Date Issued: 10/04/02

License No.: L05360  
Amendment No.: 0  
License Reviewers: UR Team

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

File No.: 23  
Licensee: Solutia Inc.  
Type of Action: Amendment  
Date Issued: 3/8/04

License No.: RW0219  
Amendment No.: 3  
License Reviewer: BB

File No.: 24  
Licensee: Solutia Inc.  
Type of Action: Renewal  
Date Issued: 6/25/02

License No.: RW0219  
Amendment No.: 2  
License Reviewer: BB

Comment:

Attachment A to the license contains historical license requirements remaining applicable to the closed disposal units.

## APPENDIX E

### INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1

Licensee: Laredo Regional Medical Center

Date of Incident: 11/26/02

Investigation Date: 12/23/02

License No.: L02192

NMED Number: 021164

Type of Incident: Contamination

Type of Investigation: Phone, Inspection

File No.: 2

Licensee: VHS San Antonio Partner LP

Date of Incident: 7/20/04

Investigation Date: 8/18/04

License No.: L00455

NMED Number: 040748

Type of Incident: Misadministration

Type of Investigation: Phone, Inspection

File No.: 3

Licensee: National Central Pharmacy

Date of Incident: 11/12/04

Investigation Date: 12/16/04

License No.: L04781

NMED Number: Not reportable

Type of Incident: Procedure failure

Type of Investigation: Inspection

File No.: 4

Licensee: Nuclear Sources and Services, Inc.

Date of Incident: 12/1/04

Investigation Date: 12/2/04

License No.: L02991

NMED Number: 040854

Type of Incident: Contamination

Type of Investigation: Inspection, on-site during cleanup

File No.: 5

Licensee: VHS San Antonio Partner LP

Date of Incident: 12/12/01

Investigation Date: 1/7/02

License No.: L00455

NMED Number: 011146

Type of Incident: Lost/stolen RAM

Type of Investigation: Inspection

File No.: 6

Licensee: Schlumberger Technology Corporation

Date of Incident: 7/10/04

Investigation Date: 7/13/04

License No.: L01833

NMED Number: 040517

Type of Incident: Lost RAM

Type of Investigation: Inspection

File No.: 7

Licensee: Fugro South Inc.

Date of Incident: 10/16/01

Investigation Date: 10/16/01

License No.: L00058

NMED Number: 010951

Type of Incident: Lost/stolen RAM

Type of Investigation: Phone, Written report

File No.: 8

Licensee: Longview Inspection

Date of Incident: 10/18/03

Investigation Date: 10/20/03

License No.: L01774

NMED Number: 030880

Type of Incident: Transportation

Type of Investigation: Phone, Written report

File No.: 9

Licensee: Goolsby Testing Laboratories, Inc.

Date of Incident: 12/30/02

Investigation Date: 1/3/03

License No.: L03115

NMED Number: 030085

Type of Incident: Equipment failure, Overexposure

Type of Investigation: Inspection

File No.: 10

Licensee: URI INC. Kingsville Dome

Date of Incident: 10/28/03

Investigation Date: 10/28/03

License No.: L03653

NMED Number: Not Reportable

Type of Incident: Pipe break, liquid spill on-site

Type of Investigation: Phone

Comment:

File did not have clear closure to incident.

## APPENDIX F

### SEALED SOURCE AND DEVICE (SS&D) CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY.

File No.: 1

Registry No.: TX-1201-D-101-S

Manufacturer: Industrial Resolution Imaging Services, Inc.

Date Issued: 1/31/04

SS&D Type: (D) Density Gauge

Model No.: IRIS-1A

Type of Action: New

SS&D Reviewers: WS, SK

Comment:

Issuance date on Page 1 is 01/31/04 was not updated to match review and concurrence date 02/06/04 on signature page.

File No.: 2

Registry No.: TX-634-D-138-D

Manufacturer: Thermo MeasureTech

Date Issued: 1/09/02 Corrected Page 1

SS&D Type: (D) Gamma Gauge

Model No.: 5201, 5201A

Type of Action: Corrected Page 1 (Amend)

SS&D Reviewers: DF, PM

Comments:

- a) Last three sentences in "Conditions of Normal Use" section are repeated in "Safety Analysis Summary" and word "simply" in the phrase "simply a radiation hazard" adds no additional information and could mislead someone on the potential hazard.
- b) SSR File does not match the sheet posted on NRC web site and file. Posted pages 2, 3 and 4 have the incorrect date and should be updated.

File No.: 3

Registry No.: TX-586-D-112-G

Manufacturer: Frame Engineering, AS

Distributor: Schlumberger Technology Corp

Date Issued: 11/24/04

SS&D Type: (D) Density Gauge

Model No.: VxSM and VxSL,

Subsea Phase Watcher Vx

Type of Action: New

SS&D Reviewers: MD, DF

Comment:

Principal type lists letter text first then letter instead of as stated in NUREG-1556, Volume 3, Appendix D and C "(D) Density Gauge."

File No.: 4

Registry No.: TX-1153-S-102-S

Manufacturer: International Isotopes Idaho

Date Issued: New 10/22/2002

Date Issued: Amended in Entirety 12/10/03

SS&D Type: (X) Medical Reference Source

Model No.: BM06 Series (BM05-33, BM06-37)

SS&D Reviewers: SK, DF

SS&D Reviewers: SK, DF

Comments:

- a) Description of use starts on Page 1 of the SSR on new and amended sheets.
- b) Principal type lists letter text first then letter instead of as stated in NUREG-1556, Volume 3, Appendix D and C "(X) Medical Reference Source."

File No.: 5

Registry No.: TX-642-D-102-B

Manufacturer: Thermo Finnegan LLC.

Date Issued: 12/11/02

SS&D Type: (N) Ion Generator, Chromatography

Model No.: 115500

Type of Action: Amended page 1

SS&D Reviewers: DF, PM

Comment:

Current sheet does not indicate that a Radium source LAB-784 is no longer available for distribution as listed on previous amendment.

File No.: 6

Registry No.: TX-8134-D-105-S

Manufacturer: P.A., Inc.

Date Issued: 12/05/03

SS&D Type: (D) Density Gauge

Model No.: 5-A

Type of Action: Inactivation

SS&D Reviewers: DF, PM

Comment:

According to records these devices were never commercially made.



ATTACHMENT 1

November 15, 2005 Letter from Richard Bays  
Texas' Response to Draft IMPEP Report

ADAMS: ML053210174

## COMMENT RESOLUTION ON THE 2005 TEXAS DRAFT IMPEP REPORT

Texas Department of State Health Services (the Department) responded by letter dated November 15, 2005 and had the following comments on the draft report in addition to their responses to the recommendations in the draft report.

### Department's Comment:

DSHS has taken actions to improve the adequacy of the Agreement State Program since the NRC placed the program on "heightened oversight" in April of 2005. All regulations have been adopted, the "Health Physicist" job classification is being implemented to assure recruitment and retention of staff, and all incidents are being timely reported to NRC. The inspector positions in Abilene and Corpus Christi are being filled with experienced inspectors. I therefore request that the DSHS Agreement State Program be removed from "heightened oversight" status.

### Team's Response:

The team agrees that the Department has made significant progress in moving the program toward a program that is satisfactory in all indicators for the IMPEP program. However, as indicated in the draft report, the Department has additional work to do in the four indicators that were found to be satisfactory but needs improvement. The Team believes that, based on the criteria in Management Directive 5.6 and the performance of the Department as reviewed in September 2005, the Texas program should remain on heightened oversight to allow the Department the time to demonstrate performance at the satisfactory level. A follow-up review in approximately one year should allow sufficient time for the program changes to be reflected in the program performance.

### Department's Comment:

In addition, the Texas Radiation Advisory Board (TRAB) has expressed concern over the statement made on page 5 of the IMPEP draft report, which states, "The review team determined that there appears to be no conflict-of-interest." The TRAB chairman will address the Board's concerns to NRC directly.

The TRAB also clarified their comment with the following email text.

Thanks very much for the followup phone call. For the purpose of clarity, I would offer the following comments:

Given the narrative regarding the TRAB within the NRC draft report:

1. The final sentence leaves the reader with the impression that, although "there appears to be no conflict-of-interest," a conflict may indeed exist. I do not think, given my read of the criterion, that this is a required or necessary conclusion. The criterion that I was provided states as follows:

"Does the Agreement State program have an oversight board or committee which provides direction to the program and is composed of licensees and other members of the public? If so, please describe the procedures used to avoid a conflict of interest." All that is requested by the criterion is a description of the process used to vet conflicts-of-interest, not a finding (conclusive or otherwise) as to whether conflicts may exist.

2. Regarding the adequacy of staffing of the Board, an observation could be made that although 18 members are identified in the statute, the TRAB currently has 4 vacancies, and 11 of the 14 current members are serving on expired terms.
3. For clarity, the TRAB officially advises three state agencies (DSHS, TCEQ, and the Railroad Commission of Texas, RCT).

Again, thanks very much for the call.

Michael S. Ford, CHP  
Chair, Texas Radiation Advisory Board

Team's Response:

The team's write up was intended to state that the TRAB members are required to have training in conflict-of-interest and operate under procedures that would avoid any such conflict. The language in the report was modified to clarify this issue and correct other factual information.

Department's Comment:

On page 10 of the draft report, we suggest deleting the paragraph from the final report, since it does not reflect a systematic programmatic finding. If the paragraph stays in the final report, we recommend that it be modified as shown below.

*"The team noted that the Department does not routinely verify the disposition of large sealed sources when a licensee requests removal of the sealed source from their license. This was discussed with Radiation Licensing Group management and they agreed that they ~~should~~ do routinely verify that sealed sources reach their intended disposal or transfer site prior to removing them from a license, but had overlooked the disposition verification step in one instance of a license amendment, rather than a license termination. In the future, the licensing staff will verify that the sources have been received by the recipient prior to deleting it from the senders license."*

Team's Response:

The team disagrees with the recommended change. The team reviewer noted two cases where the licenses were amended without verification and the discussions with the Radiation Licensing Group management indicated that the verification step was not part of their current practice. No change to the report was made.

Department's Comment:

From the draft report, 4.2.2, paragraph four - This included the need to amend some sheets that indicated that Special Nuclear Materials may be distributed under a general license. The Department is currently working with the manufacturer to delete this from the registrations.

We recommend that this paragraph be removed from the final IMPEP report since it does not fall within the prescribed review criteria of "All SS&D evaluations completed since the last IMPEP review are candidates for review. Additionally it is not a recommendation or suggestion and does not bear on the overall finding related to this indicator.

Team's Response:

The team addressed this SS&D program issue during the IMPEP review because the program issue was identified during the review period. The Department action to resolve the issue is appropriate and will allow the issue to be closed. The team recommends that the paragraph remain in the report which will show that the issue was addressed and allow the issue to be closed.

The Texas Commission on Environmental Quality (the Commission) relayed their comments by telephone on November 16, 2005.

Commission's Comment:

The final report should be clear that the "heightened oversight" status for the State of Texas was not based on the activities of the Commission.

Team's Response:

The final report will be clear that the heightened oversight status of the State of Texas was based on the performance of the Department and not the performance of the Commission.