UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 30, 2014

Robert Moser, M.D.
Secretary of Health and Environment
State Health Officer
Curtis State Office Building
1000 SW Jackson, Suite 540
Topeka, KS 66612-1368

Dear Dr. Moser:

On September 4, 2014, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Kansas Agreement State Program. The MRB found the Kansas program adequate to protect public health and safety and compatible with the U.S. Nuclear Regulatory Commission's (NRC) program.

Section 5.0, page 11 of the enclosed final report contains a summary of the IMPEP team's findings and one performance recommendation concerning materials licensing. Prior to the MRB meeting, the Kansas program submitted its root cause analysis and implemented corrective actions to address the recommendation. Therefore, no additional response needs to be submitted to the MRB.

In our deliberation, the MRB thoroughly discussed the significant well logging event that occurred in March 2014 that was not sufficiently responded to by the State. The State was aware of the incident but did not prioritize an investigation. Following discussions with the IMPEP team, the State took aggressive actions to investigate the event. Prior to the MRB, the State had completed a root cause analysis on its failure to respond and implemented changes in procedures and managerial oversight to prevent recurrence. The State's prompt action, once the error was realized, demonstrated to the MRB, the State's commitment to protecting public health and safety.

Based on the results of the current IMPEP review, the next full review of the Kansas Agreement State Program will take place in approximately 4 years, with a periodic meeting tentatively scheduled for June 2016.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review. I commend the Kansas program for the swift actions taken to proactively address a few program weaknesses identified by the IMPEP process. I also wish to acknowledge your continued support for the Agreement State Program. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely,

/RA/

Roy P. Zimmerman
Acting Deputy Executive Director for
Materials, Waste, Research, State, Tribal and
Compliance Programs
Office of the Executive Director for Operations

Enclosure:
Kansas Final IMPEP Report

cc: Michael Ortiz, NM
Organization of Agreement States
Liaison to the MRB

Thomas Langer, Director
Bureau of Environmental Health

Thomas Conley, CHP, RRPT, Chief
Radiation & Asbestos Control Section

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE KANSAS AGREEMENT STATE PROGRAM

JUNE 9–13, 2014

FINAL REPORT

Enclosure

EXECUTIVE SUMMARY

This report presents the results of the Integrated Materials Performance Evaluation Program (IMPEP) review of the Kansas Agreement State Program. The review was conducted during the period of June 9–13, 2014, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Ohio.

Based on the results of this review, Kansas' performance was found satisfactory for four of the six performance indicators reviewed: Technical Staffing and Training, Status of Materials Inspection Program, Technical Quality of Inspections, and Compatibility Requirements. The other two performance indicators, Technical Quality of Licensing Actions and Technical Quality of Incident and Allegation Activities, were found satisfactory, but needs improvement.

The cause of the satisfactory, but needs improvement, finding for Technical Quality of Licensing Actions was due to the number of deficiencies identified by the team during a sampling of medical licensing actions. The details of these deficiencies are described in Section 3.4 of this report. The review team made a recommendation to review all active medical licenses and develop a process that ensures authorized users on the license are adequately qualified to perform the licensed activities. Prior to the Management Review Board (MRB) meeting, Kansas took a proactive approach to addressing the issues identified by the IMPEP team. Kansas conducted a root cause analysis for the medical licensing concerns and took corrective actions to address the issues and prevent recurrence. These actions included an audit of all license files, database updates, procedural changes, and issuance of amendments as necessary.

The cause of the satisfactory, but needs improvement, finding for Technical Quality of Incident and Allegation Activities was due to an insufficient response by the Program to an overexposure event at a well logging licensee facility. The details of the event and the Kansas Program's response are described in Section 3.5 of this report. The review team did not make a recommendation for this indicator because the insufficient response was isolated to this singular, albeit significant event, and the Program has previously demonstrated satisfactory performance when responding to similar types of events. Prior to the MRB meeting, Kansas took a proactive approach to address performance deficiencies related to its handling of the well logging event. Specifically, Kansas conducted a root cause analysis and implemented changes in procedures and management oversight of incidents to prevent recurrence.

The review team determined, and the MRB agreed, that the two recommendations from the 2010 IMPEP review, described in Section 2.0 of this report, regarding training to increase familiarity with the regulations in 10 CFR Part 35 during inspections, and to develop a process for handling and marking sensitive documents, should be closed.

Accordingly, the review team recommended, and the MRB agreed, that the Kansas Agreement State Program is adequate to protect public health and safety and is compatible with the NRC's program. The review team recommended, and the MRB agreed, that the next IMPEP review take place in approximately 4 years. The MRB commended the Kansas program for its swift actions taken to proactively address a few program weaknesses identified in the IMPEP process.

1.0 INTRODUCTION

This report presents the results of the review of the Kansas Agreement State Program. The review was conducted during the period of June 9–13, 2014, by a review team composed of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Ohio. 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 Final General Statement of Policy," published in the *Federal Register* on October 16, 1997, and NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated February 26, 2004. Preliminary results of the review, which covered the period of June 19, 2010, to June 13, 2014, were discussed with the Kansas Secretary of Health and Environment, and other managers, on the last day of the review.

A draft of this report was issued to Kansas on July 17, 2014, for factual comment. Kansas responded to the findings and conclusions of the review by letter dated August 12, 2014. Copies of the State's responses are included as an attachment to this report. The Management Review Board (MRB) met on September 4, 2014, to consider the proposed final report. The MRB found the Kansas Agreement State Program adequate to protect public health and safety, and compatible with the NRC's program.

The Kansas Agreement State Program is administered by the Radiation and Asbestos Control Section (the Section), which is located within the Bureau of Environmental Health (the Bureau). The Bureau is part of the Kansas Department of Health and Environment (the Department). Organization charts for the Department, Bureau, and Section are included as Appendix B.

At the time of the review, the Kansas Agreement State Program regulated 283 specific licenses authorizing possession and use of radioactive materials. The review focused on the radioactive 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 Kansas.

In preparation for the review, a questionnaire addressing the common and applicable non-common performance indicators was sent to the Section on March 8, 2014. The Section provided its response to the questionnaire on May 14, 2014. A copy of the questionnaire response can be found in NRC's Agencywide Documents Access and Management System (ADAMS) using Accession Number ML14136A370.

The review team's general approach for conduct of this review consisted of (1) examination of the Section's response to the questionnaire, (2) review of applicable Kansas statutes and regulations, (3) analysis of quantitative information from the Section's database, (4) technical review of selected regulatory actions, (5) field accompaniments of four inspectors, and (6) interviews with staff and managers. The review team evaluated the information gathered against the established criteria for each common and the applicable non-common performance indicator and made a preliminary assessment of the Kansas Agreement State Program's performance.

Section 2.0 of this report covers the State's actions in response to recommendations made during previous reviews.

Results of the current review of the common performance indicators are presented in Section 3.0. Section 4.0 details the results of the review of the applicable non-common performance indicators, and Section 5.0 summarizes the review team's findings.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on June 18, 2010, the review team made two recommendations regarding the Kansas Agreement State Program's performance. The statuses of the recommendations are as follows:

1. "The review team recommends that the State ensure that inspectors gain increased familiarity with the regulations in 10 CFR Part 35, as well as be provided appropriate formal training in addition to mentoring and/or on-the-job training to ensure familiarity with various therapeutic modalities involving byproduct materials such that these areas will be appropriately reviewed during inspections. (Section 3.1)"

   Status: During the review period, the State completed a number of actions to address this recommendation. The State completed formal training of all radioactive materials inspection staff by attending the NRC brachytherapy course. The State implemented a policy to have at least a two-person team inspect complex medical licenses to further enhance on-the-job training and mentoring of newer staff. The State developed training material on brachytherapy requirements which was presented at the 2011 Kansas Regulatory Conference; staff observed the NRC brachytherapy webinar in 2012, and conducted in-house refresher training on 10 CFR Part 35 in 2014. The review team determined the actions taken by the State addressed the recommendation. This recommendation is closed.

2. "The review team recommends that the State further develop the policy that was instituted during the onsite review and provide additional guidance for identifying, marking, handling, transmitting, and storing documents containing sensitive information. (Section 3.3)"

   Status: The State developed and has guidance for identifying, marking, handling, transmitting, and storing documents containing sensitive information. Documents containing sensitive material are clearly marked and safeguarded as appropriate. These documents are stored in a locked storage area and have folders that are conspicuously marked "Controlled File." The review team determined the actions taken by the State addressed the recommendation. This recommendation is closed.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review NRC regional and Agreement State radioactive materials 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

Considerations central to the evaluation of this indicator include the Section'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 Section's questionnaire response relative to this indicator, interviewed managers and staff, reviewed job descriptions and training records, and considered workload backlogs.

The Section is responsible for materials inspection, licensing and compliance activities, and emergency response activities. The Section is composed of one manager, one radioactive materials supervisor, one program support staff member, and five technical staff members.

At the time of the review, five technical staff members, plus the supervisor, totaling 5.5 full-time equivalents (FTE) had direct involvement in the daily operations of the radioactive materials program. All of the technical staff members are allocated 5 percent of their FTE for nuclear power plant emergency response with one staff member allocated an additional 20 percent of his FTE to perform asbestos program activities. No positions were vacant at the time of the review. One technical staff person resigned at the end of 2011 for personal reasons. The position was filled within three months by an internal candidate from the Bureau. The review team determined that staffing levels were adequate for the Kansas Agreement State program.

The Section has a documented training plan for technical staff that is consistent with the requirements of the NRC/Organization of Agreement States Training Working Group Report and NRC Inspection Manual Chapter (IMC) 1248, "Qualification Programs for Federal and State Materials and Environmental Programs." Staff members are assigned increasingly complex duties as they progress through the qualification process. The review team concluded that the Section's training program is adequate to carry out its regulatory duties and noted that Kansas management supports the Section's training program.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Kansas' performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

3.2 Status of Materials Inspection Program

The review team focused on five factors while reviewing this indicator: inspection frequency, overdue inspections, initial inspections of new licenses, timely dispatch of inspection findings to licensees, and performance of reciprocity inspections. The review team's evaluation was based on the Section's questionnaire response relative to this indicator, data gathered from the Section's database, examination of completed inspection casework, and interviews with management and staff.

The review team verified that Kansas' inspection frequencies for all types of radioactive material licenses are usually more frequent than the NRC's frequency for similar license types listed in NRC IMC 2800, "Materials Inspection Program." The only exception is industrial radiography which is routinely inspected annually at the same frequency as the NRC. However, the Section does increase the inspection frequency if there are performance issues with any of its licensees,

including radiography licensees. Frequencies have been adjusted to quarterly inspections in some instances where poor performance has warranted this additional oversight.

The Section conducted 145 Priority 1, 2, and 3 inspections during the review period. One of these Priority 1 inspections was conducted overdue by more than 25 percent of the inspection frequency prescribed in IMC 2800. In addition, the Section performed 33 initial inspections during the review period, one of which was conducted overdue by 105 days. Section procedures, in agreement with IMC 2800, state initial inspections should be conducted within 12 months of license issuance. The initial inspection was conducted late due to scheduling conflicts for the inspector. Overall, the review team calculated that the Section performed 1.1 percent of its inspections overdue during the review period.

The review team evaluated the Section's timeliness in providing inspection findings to licensees. A sampling of 15 inspection letters indicated that 6 of the inspection findings letters were transmitted to the licensees beyond the Section's goal of 30 days after the inspection. Out of the 178 initial and higher priority inspections conducted during the review period, the review team determined that approximately 26 percent (47) of the inspection findings letters were transmitted to licensees between 31 and 105 days after the inspection. The review team noted that the majority of the delayed inspection findings letters did not have violations. The primary reason for the delay in issuing the letters was due to the Section staff addressing other issues when returning to the office after the inspection. The Section does inform the licensee of the preliminary results of the inspection at the exit interview. A delay in transmitting inspection findings letters does not impact the licensee's ability to implement corrective actions to address any violations that may have been identified during the inspection. The review team discussed this issue with the Section manager and supervisor. Section management determined that computer generated reports used by the Section to monitor the timeliness of inspection activities were not providing sufficient detail to monitor the transmittal of inspection findings. Section management addressed this issue by modifying the computer generated reports and more closely monitoring the timely transmittal of inspection findings.

During the review period, the Section granted 303 reciprocity permits, of which, 118 were candidate licensees based upon the criteria in IMC 1220, "Processing of NRC Form 241 and Inspection of Agreement State Licensees Operating Under 10 CFR 150.20." The review team determined that the Section did not meet the NRC's criteria of inspecting 20 percent of candidate licensees operating under reciprocity in each of the four years covered by the review period. In 2010, the Section inspected 20 percent of candidates, but for the other years during the review period the reciprocity inspection rate has been 10 - 13 percent. Prior to the onsite IMPEP review, the Section had identified this declining trend, which appears to be due to the geographical challenges associated with the size of Kansas and the location of reciprocity activities. The number of reciprocity candidates has increased due to the increased radiography and well logging activities in western Kansas. The large geographical area of western Kansas poses a challenge to Section inspectors because when inspectors travel to western Kansas to perform a reciprocity inspection, they usually find the licensee has either completed work and moved on, or has yet to arrive at the site. To resolve these challenges, the Section implemented new requirements for each inspector to identify and track reciprocity candidates at the beginning of each year. The Section determined that it becomes aware of approximately 15 to 20 candidates licensees by the end of January each year, and the rest of the candidates come in throughout the remainder of the year. The Section plans to require each inspector

select two candidates to inspect each year to ensure the Section meets the criteria of inspecting 20 percent of the candidates. The team determined that the Section's plans and action taken to address its reciprocity challenges were sufficient, and therefore did not offer a specific performance recommendation. The MRB agreed and commended the Section on identifying and taking prompt corrective action. The MRB noted that issues with reciprocity are currently under review by NRC and Agreement State staff working on revisions to the applicable procedures.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Kansas' performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

3.3 Technical Quality of Inspections

The review team evaluated the inspection reports, enforcement documentation, inspection field notes, and interviewed inspectors for 25 radioactive materials inspections conducted during the review period. The casework reviewed included inspections conducted by one former and five current Section inspectors and covered inspections of various license types: academic and medical broad scope, diagnostic nuclear medicine, medical license distribution, high dose-rate remote afterloaders, industrial radiography, veterinary, nuclear pharmacy, and well logging licensees. The review also included both initial and follow-up Increased Controls inspections. Appendix C lists the inspection casework files reviewed; as well as the results of the inspector accompaniments.

Based on the evaluation of casework, the review team noted that inspections covered all aspects of the licensee's radiation safety programs. The review team found that inspection reports were 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, unresolved safety issues, the effectiveness of corrective actions taken to resolve previous violations and discussions held with licensees during exit interviews. In addition, all inspection documentation is entered into the Section's database, which is accessible to all staff members.

The review team determined that documents involving Increased Controls inspections were protected, segregated from other files, and maintained in a manner to limit access. Inspection report files for Increased Controls were in color coded folders and kept separate from the routine inspection reports. Documents that were released to the public in information requests were sufficiently marked as sensitive information, as appropriate.

The inspection procedures utilized by the Section are consistent with the inspection guidance outlined in IMC 2800. The Section has a policy to accompany all staff performing radioactive materials inspections on an annual basis. Supervisory accompaniments were conducted annually for all inspectors.

The review team determined that the inspection findings were appropriate and prompt regulatory actions were taken, as necessary. Inspection findings were clearly stated and documented in the reports and sent to the licensees with the appropriate letter detailing the results of the inspection. The review team noted that the computer generated inspection reports

provided a good format for a narrative of the inspectors' observations and findings. Examples of these reports were taken by the review team for future training and demonstration purposes.

The review team verified that the Section maintains an adequate supply of appropriately calibrated survey instruments to support the inspection program, as well as to respond to radioactive materials incidents and emergency conditions. Instruments used to support the radioactive materials inspection program are calibrated by the manufacturer.

Accompaniments of four inspectors were conducted by an IMPEP team member during the week of May 5, 2014. The inspectors were accompanied during health, safety and security inspections of two industrial radiography licensees and a medical therapy licensee. The accompaniments are identified in Appendix C. During the accompaniments, the inspectors demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted performance-based inspections. The inspectors were trained, well-prepared for the inspection, and thorough in their audits of the licensees' radiation safety programs. The inspectors conducted interviews with appropriate personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. The inspections were adequate to assess radiological health and safety and security at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Kansas' performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed license reviewers for licensing actions covering specific licenses. A total of 20 licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequacy of facilities and equipment, adherence to good health physics practices, financial assurance, security requirements, operating and emergency procedures, appropriateness of license conditions, and overall technical quality. The casework was also reviewed for timeliness, use of appropriate correspondence, reference to appropriate regulations, supporting documentation, consideration of enforcement history, pre-licensing visits, peer and supervisory review, and proper signatures.

The casework was selected to provide a representative sample of licensing actions completed during the review period. Licensing actions selected for evaluation included 2 new licenses, 5 renewals, 11 amendments, and 2 license terminations. Casework reviewed included a cross-section of license types such as industrial, broad scope medical and academic, nuclear medicine diagnostic and therapeutic, research and development, portable gauge, fixed gauge, nuclear pharmacy, and veterinary. A listing of the licensing casework reviewed, with case specific comments, can be found in Appendix D.

The review team concluded that actions taken in terminating licenses were appropriately documented, which included suitable material survey records, and contained documentation of proper disposal or transfer of radioactive material.

Licenses are created and tracked using a local database. Once completed, all licensing actions are reviewed by the Section Supervisor, and then reviewed and signed by the Section Manager. The Section has Kansas specific guidance documents for the common types of licenses issued but also uses the NRC's NUREG-1556 series for additional licensing guidance.

Kansas adopts 10 CFR Part 35 – "Medical Use of Byproduct Material," by reference. The equivalent Part 35 regulations are found in Kansas Administrative Regulations (KAR 28-35-264). The review team identified five licenses where authorized users were added to radioactive material licenses for medical use without the proper documentation to verify the training, experience, and preceptor attestation. In four cases, the Section approved users who were neither qualified for, nor who applied for, all of the authorized uses in 10 CFR 35.300. However, the authorized users were granted full authorization to use 10 CFR 35.300 materials. The review team brought these issues to the attention of the Section supervisor, who immediately contacted the licensees and determined these physicians had not used the radioactive materials for applications that they were not qualified to administer. The Section will re-issue these licenses with appropriate authorizations for these physicians. In one amended license issued for a facility, the Section included an authorized physician who was added to the license without proper documentation to verify the training, experience, and preceptor attestation. Specifically, the documentation submitted only contained continuing education certificates. The review team brought this to the attention of the Section supervisor, who contacted the licensee and reviewed all previously archived submissions of the user's qualification documents. The Section determined this specific authorized user was approved in 1992, and had inadvertently been removed from a recent amendment to the license. The Section added the appropriate documentation to the file for this amendment to show the authorized user meets the requirements.

The review team identified repeated examples of problems authorizing physician users for 10 CFR 35.300 (KAR 28-35-264) uses with respect to thoroughness, completeness, consistency, and adherence to existing guidance for medical licensing actions. The review team recommends that the State review all active medical licenses and verify that previously approved authorized physician users have the proper board certification or training requirements, and preceptor attestation, and develop and implement a process that will ensure proper verification and documentation of user qualifications for 10 CFR 35.300 (KAR 28-35-264) uses of byproduct material. While no problems were identified by the review team with respect to authorized medical physicists, radiation safety officers, and authorized nuclear pharmacists, as a result of subsequent discussions, Section management decided to review a sampling of the training and experience of these individuals, in addition to the team's recommendation.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Kansas' performance, with respect to the indicator Technical Quality of Licensing Actions, be found satisfactory, but needs improvement.

3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Section's actions in responding to incidents and allegations, the review team examined the Section's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Kansas in the Nuclear Material Events Database (NMED) against those contained in the Section's files, and evaluated the casework

for 14 radioactive materials incidents. A list of the incident casework examined, with a case specific comment, may be found in Appendix E. The review team also evaluated the Section's response to three allegations involving radioactive materials received by the State during the review period.

The incidents selected for review included the following categories: lost radioactive material, overexposures, damaged equipment, equipment failure and transportation. The review team determined that the Section's response to incidents was adequate for 13 of the 14 evaluated incidents. The Section performed a complex investigation for one of the incidents, a licensee employee radiation overexposure case. That investigation was thorough and comprehensive and suitable enforcement and follow-up actions were taken. Section staff employ a procedure entitled, "Investigation of Accidents, Incidents or Overexposures" when responding to an incident. The procedure has a good discussion of considerations for inspectors to think about during their investigation. The Section supervisor stated that, based on feedback from the review team, the procedure would be enhanced to provide more specific direction with respect to on-site investigation of incidents.

One incident, in particular, with the potential for significant health and safety consequences to licensee personnel, as well as the public, was not sufficiently responded to by the Section. A well logging licensee reported in March 2014 that a licensee employee received a whole body overexposure for calendar year 2013. The licensee stated that the individual, a well logging assistant, was overexposed because he handled gamma (Cs-137) and neutron-emitting (Am-Be) well logging sources with his bare hands, instead of the standard industry practice of using remote handling tools. The Section responded to the licensee via email with a significant number of questions regarding the overexposure, including a request for the results of the licensee's incident reenactment and the training history of the employee. In early April 2014, the licensee responded to the Section with the results of its reenactment showing a whole body overexposure and a considerable extremity exposure, without sufficient discussion of the potential neutron dose. The licensee also indicated that the employee had not received formal training prior to handling the radioactive sources. The team observed and discussed with the Section that the licensee's response did not address possible radiation exposures to other workers at the well site who could be considered members of the public, nor did the licensee adequately discuss how it failed to exercise proper supervision of this untrained worker.

A Section senior inspector was assigned to the case, but routine inspections and licensing actions took priority so that quarterly assignments would not come overdue. Section managers were aware of the incident but did not prioritize an investigation. After the review team's discussion with Section and Bureau managers during this review, the managers agreed that an aggressive response was warranted in this case and stated that such an on-site investigation would be launched promptly, including an independent reenactment of the incident.

Section managers were aware of incident reportability thresholds, as established in the Office of Federal and State Materials and Environmental Management Programs (FSME) Procedure SA-300 "Reporting Material Events." All applicable incidents were reported to the NRC Headquarters Operations Center and entered into NMED, in a timely manner. It should be noted that the well logging incident discussed above was also reported to NMED in a timely manner. The Section was not required to report the well logging incident to the NRC Headquarters Operations Center based on the event description and dose information received

from the licensee. The Section's reenactment may result in different dose assignments to the well logging assistant or other workers (members of the public) which may require additional notifications. On August 12, 2014, the Section provided an update to the investigation of the well logging incident described above and indicated that no members of the public were exposed to radiation from this incident. Two radiation workers received doses in excess of regulatory limits. One worker received a whole body dose of 5.122 rem and the other worker received an extremity dose of 50.14 rem. No other individuals received doses which exceeded regulatory limits. Prior to the MRB meeting, the Section conducted a root cause analysis for the Section's insufficient response to the well logging event. The root causes were determined to be insufficient management oversight of this particular investigation, and the Section's procedures did not have specific guidance on when an onsite investigation should be conducted. The Section implemented procedural and management oversight changes to prevent recurrence.

In evaluating the effectiveness of the Section's response to allegations, the review team evaluated the completed casework for three allegations received by the State during the review period. The review team concluded that the Section took prompt and appropriate actions in response to concerns raised. The review team noted that the Section documented the investigations of concerns and retained all necessary documentation to appropriately close the allegations. The Section notified the concerned individuals of the conclusion of its investigations. The review team determined that the Section adequately protected the identity of concerned individuals.

The review team considered recommending a finding of "unsatisfactory" for this indicator. However, the review team concluded that, despite the Section's failure to properly respond to the potentially significant health and safety consequences from the well logging incident, the Section had responded to another overexposure incident and to allegations in a prompt, comprehensive manner. Therefore, the Section's performance was not indicative of frequent examples of incomplete or inappropriate responses to incidents.

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

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review 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. NRC's Agreement with Kansas does not relinquish regulatory authority for a uranium recovery program; therefore, only the first three non-common performance indicators applied to this review.

4.1 Compatibility Requirements

4.1.1 Legislation

Kansas became an Agreement State on January 1, 1965. Legislative authority to create an agency and enter into an Agreement with the NRC is granted in Article 16 - Nuclear Energy Development and Radiation Control Act, Kansas Statutes, K.S.A. 48-1601 to 48-1619. The Department Secretary is responsible by law for radiation control. The Department is designated as the State's radiation control agency. There were no legislative changes affecting the program during the review period.

4.1.2 Program Elements Required for Compatibility

The Kansas regulations governing radiation protection requirements are found in KAR 28-35-133 through KAR 28-35-505, apply to all ionizing radiation, whether emitted from radionuclides or produced by machines. Kansas requires a license for the possession and use of all radioactive material, including naturally occurring materials and accelerator-produced radionuclides. Kansas also requires registration of all machines designed to produce x-rays or other ionizing radiation. Kansas' regulations are not subject to sunset laws. The State has the ability to adopt certain rules by license condition.

The review team verified that the State's rulemaking process offers the public and other interested parties an opportunity to comment on proposed regulation changes. Proposed rulemaking packages are initially reviewed by the Secretary of Administration and then by the Attorney General for legality. The Department then offers the public and other interested parties an opportunity to comment on the proposed regulation changes when it is published in the *Kansas Register*. The Department sends the proposed regulation changes to NRC for a compatibility review during the public comment period. The Joint Committee on Administrative Rules and Regulations is responsible for legislative oversight of regulations and also reviews the proposed regulatory package during the public comment period. Once the proposed regulation is adopted, it is then published in the *Kansas Register* and typically takes effect within 15 days. The review team determined that the regulation promulgation process takes approximately 6-10 months.

Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally binding requirements no later than 3 years after the effective date of NRC's regulations. Kansas is up to date on the adoption of regulation packages, which the review team noted was a strength of the Kansas program. At the time of this review, the following three promulgated regulations had outstanding comments, from the NRC, which need to be resolved:

- "Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material," 10 CFR Parts 30, 31, and 32 amendment (65 FR 79162), that was due for Agreement State adoption by February 16, 2004.

- "Exemptions from Licensing, General Licenses, and Distribution of Byproduct Material; Licensing and Reporting Requirements," 10 CFR Parts 30, 31, 32, and 150 amendment (72 FR 58473), that was due for Agreement State adoption by December 17, 2010.

- "Requirements for Expanded Definition of Byproduct Material,"10 CFR Parts 20, 30, 31, 32, 33, 35, 61, and 150 amendment (72 FR 55864), that was due for Agreement State adoption by November 30, 2010.

A complete list of regulation amendments may be found on the NRC website at the following address: http://nrc-stp.ornl.gov/rss_regamendents.html.

Based on the IMPEP evaluation criteria, the review team recommended, and the MRB agreed, that Kansas' performance with respect to the indicator, Compatibility Requirements, be found satisfactory.

4.2 Sealed Source and Device Evaluation Program

The Kansas Agreement State Program has authority to conduct sealed source and device (SS&D) evaluations for byproduct, source, and certain special nuclear materials; however, the Section did not conduct any SS&D evaluations during the review period. There are currently no SS&D manufacturers in Kansas. If the Section receives an application for an SS&D action, the Section has a procedure in place to outsource or contract the action. Accordingly, the review team did not review this indicator.

4.3 Low-Level Radioactive Waste Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement," to allow a State to seek an amendment for the regulation of Low-Level Radioactive Waste (LLRW) as a separate category. Although the Kansas Agreement State Program has LLRW disposal authority, NRC has not required States to have a program for licensing a LLRW disposal facility until such time as the State has been designated as a host State for a LLRW disposal facility. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, they are expected to put in place a regulatory program which will meet the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in Kansas. Accordingly, the review team did not review this indicator.

5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, Kansas' performance was found satisfactory for four of the six performance indicators reviewed and satisfactory, but needs improvement, for the indicators: Technical Quality of Licensing Actions and Technical Quality of Incident and Allegation Activities. The review team made one recommendation regarding program performance by the State and determined that the two recommendations from the 2010 IMPEP review should be closed.

The review team considered additional NRC oversight including a period of monitoring and decreasing the time until the next periodic meeting because two performance indicators were less than fully satisfactory. However, given that the deficiencies identified by the review team were limited to a specific area of licensing, and the response to a singular, albeit significant event, for which past performance to a similar event was sufficient, the review team determined additional NRC oversight was not necessary.

Accordingly, the review team recommended and the MRB agreed that the Kansas Agreement State Program be found adequate to protect public health and safety and compatible with the

NRC's program. Based on the results of the current IMPEP review, the review team recommends that the next full IMPEP review take place in approximately 4 years. The MRB commended Kansas for its swift actions taken to address a few program weaknesses: reciprocity inspections, medical licensing, and incident investigation. The Section updated its procedures and databases to ensure effective implementation of corrective actions.

Below is the review team's recommendation, as mentioned in the report, for evaluation and implementation by the State:

RECOMMENDATION

The review team recommends that the State review all active medical licenses and verify that previously approved authorized physician users have the proper board certification or training requirements, and preceptor attestation, and develop and implement a process that will ensure proper verification and documentation of user qualifications for 10 CFR 35.300 (KAR 28-35-264) uses of byproduct material.(Section 3.4)

LIST OF APPENDICES

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Appendix B	KANSAS Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews

APPENDIX A

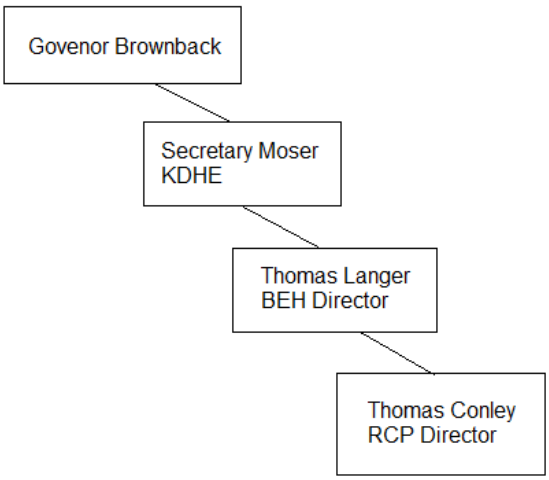
IMPEP REVIEW TEAM MEMBERS

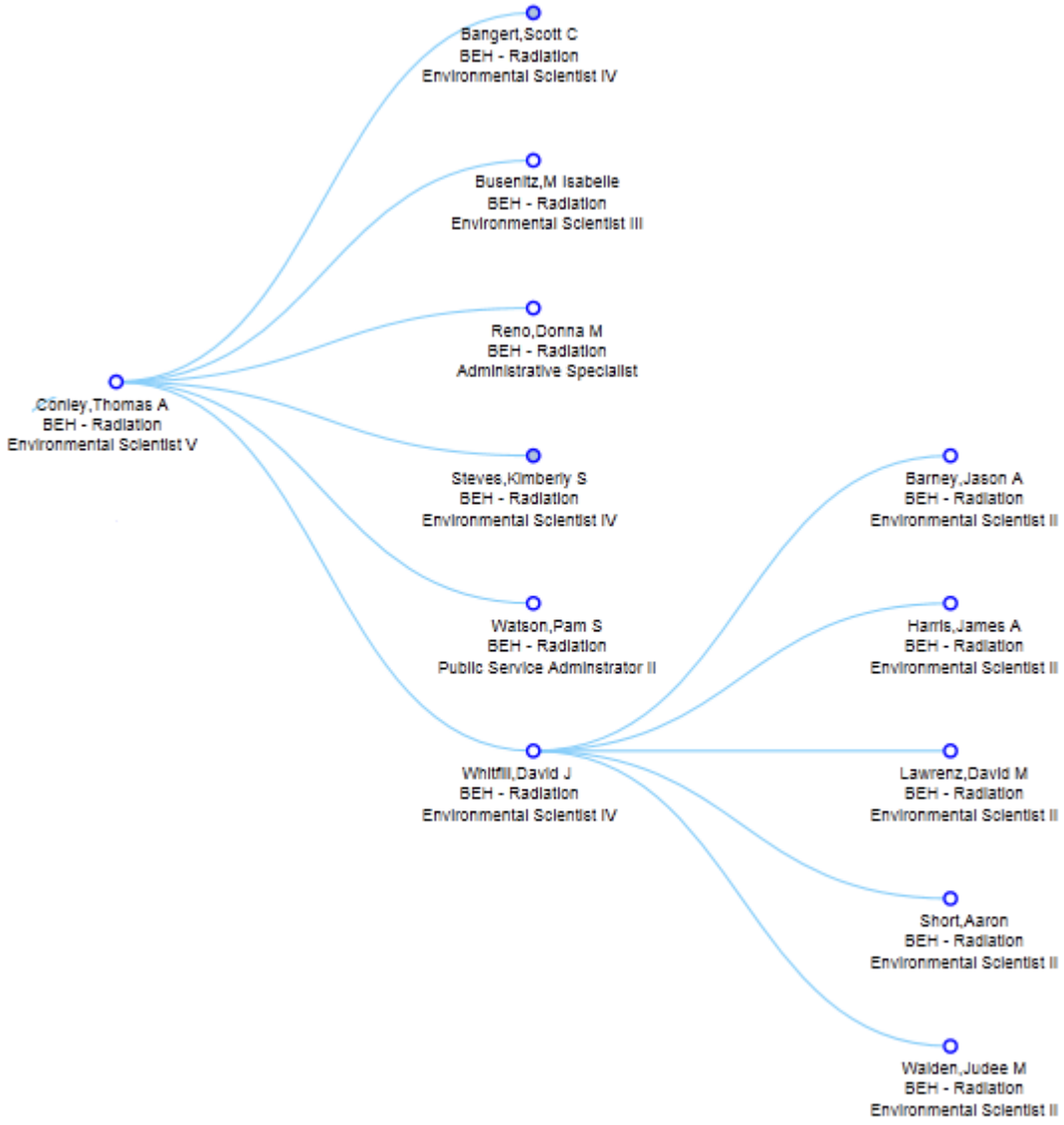
Name	**Area of Responsibility**
Jim Lynch, Region III	Team Leader Technical Quality of Incident and Allegation Activities Inspector Accompaniments Compatibility Requirements
Binesh Tharakan, Region IV	Team Leader in Training Technical Staffing and Training Status of Materials Inspection Program
Shirley Xu, FSME	Technical Quality of Licensing Actions
Mark Light, Ohio	Technical Quality of Inspections

APPENDIX B

KANSAS ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML14141A348


Govenor Brownback
Secretary Moser
KDHE
Thomas Langer
BEH Director
Thomas Conley
RCP Director


Bangert,Scott C
BEH - Radiation
Environmental Scientist IV
Busenitz,M Isabelle
BEH - Radiation
Environmental Scientist III
Reno,Donna M
BEH - Radiation
Administrative Specialist
Conley,Thomas A
BEH - Radiation
Environmental Scientist V
Steves,Kimberly S
BEH - Radiation
Environmental Scientist IV
Watson,Pam S
BEH - Radiation
Public Service Administrator II
Barney,Jason A
BEH - Radiation
Environmental Scientist II
Harris,James A
BEH - Radiation
Environmental Scientist II
Whitfill,David J
BEH - Radiation
Environmental Scientist IV
Lawrenz,David M
BEH - Radiation
Environmental Scientist II
Short,Aaron
BEH - Radiation
Environmental Scientist II
Walden,Judee M
BEH - Radiation
Environmental Scientist II

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Licensee: Cardinal Health, LLC — License No.: 10-C956
Inspection Type: Initial, Announced — Priority: 5
Inspection Date: 12/9/11 — Inspectors: TC/JB

File No.: 2
Licensee: VCA Mission Animal Referral — License No.: 33-B965
Inspection Type: Initial, Announced — Priority: 5
Inspection Date: 2/19/13 — Inspector: JW

File No.: 3
Licensee: IRIS NDT, Inc. — License No.: 21-B982
Inspection Type: Initial, Announced — Priority: 1
Inspection Date: 4/2/14 — Inspector: DL

File No.: 4
Licensee: Coffey County Hospital — License No.: 12-B970
Inspection Type: Initial, Announced — Priority: 5
Inspection Date: 7/11/13 — Inspector: JW

File No.: 5
Licensee: XCEL NDT, Inc. — License No.: 21-B982
Inspection Type: Initial, Announced — Priority: 1
Inspection Date: 12/19/13 — Inspector: AS

File No.: 6
Licensee: West Central Kansas Association — License No.: 12-B975
DBA Russell Regional Hosp.
Inspection Type: Initial, Announced — Priority: 1
Inspection Date: 2/12/14 — Inspector: JB

File No.: 7
Licensee: Menorah Medical Center. — License No.: 19-B703-01
Inspection Type: Routine, Announced — Priority: 2
Inspection Date: 8/9/11 — Inspector: JH

File No.: 8
Licensee: Chanute Manufacturing Company — License No.: 21-B189-01
Inspection Type: Routine, Announced — Priority: 1
Inspection Date: 8/1/11 — Inspector: JS

File No.: 9
Licensee: Bradken, Atchison/St. Joseph, Inc. License No.: 21-B092-01
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 5/5/14 Inspector: DL

File No.: 10
Licensee: Anderson County Hospital License No.: 19-B466-01
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 1/28/14 Inspector: JW

File No.: 11
Licensee: Coder X-ray Service License No.: 21-B165-01
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 1/28/14 Inspector: AS

File No.: 12
Licensee: Kansas State University License No.: 38-C011-01
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 1/28/14 Inspector: JB

File No.: 13
Licensee: Sauder Custom Fabrication, Inc. License No.: 21-B149-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 1/10/14 Inspector: JH

File No.: 14
Licensee: Quality Nuclear Services License No.: 34-C925-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 1/28/14 Inspector: AS

File No.: 15
Licensee: Nuclear Enterprises, LLC License No.: 20-B892
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 5/14/13 Inspector: JB

File No.: 16
Licensee: Great Bend Regional Hospital License No.: 19-B936
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 3/25/13 Inspector: AS

File No.: 17
Licensee: Dodge City Healthcare Group, LLC License No.: 19-B343-01
Inspection Type: Routine, Announced Priority: 3
Inspection Date: 3/26/13 Inspector: AS

File No.: 18
Licensee: Cornish Wireline Services
License No.: 27-B128-01
Inspection Type: Routine, Announced
Priority: 3
Inspection Date: 1/28/14
Inspector: JW

File No.: 19
Licensee: DBI, Inc.
License No.: 21-B805
Inspection Type: Routine, Announced
Priority: 1
Inspection Date: 5/8/14
Inspector: AS

File No.: 20
Licensee: Via Christi Hospitals Witchita, Inc.
License No.: 18-C753-01
Inspection Type: Routine, Announced
Priority: 2
Inspection Date: 12/3/13
Inspector: JH

File No.: 21
Licensee: University of Kansas Medical Center
License No.: 18-C800
Inspection Type: Routine, Announced
Priority: 2
Inspection Date: 3/14/13
Inspector: JH

File No.: 22
Licensee: University of Kansas Hospital Authority
License No.: 18-C801
Inspection Type: Routine, Announced
Priority: 2
Inspection Date: 3/11/13
Inspector: JW

File No.: 23
Licensee: Perf-Tech Wireline Services
License No.: 27-B779
Inspection Type: Routine, Announced
Priority: 3
Inspection Date: 11/21/13
Inspector: DL

File No.: 24
Licensee: Gemini Wireline, LLC
License No.: 27-B928
Inspection Type: Routine, Announced
Priority: 3
Inspection Date: 11/20/13
Inspector: DL

File No.: 25
Licensee: L-K Wireline, Inc.
License No.: 27-C339-01
Inspection Type: Routine, Announced
Priority: 3
Inspection Date: 2/6/14
Inspector: DL

INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1
Licensee: Bradken, Atchison/St. Joseph, Inc. License No.: 21-B092-01
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 5/5/14 Inspector: DL

Accompaniment No.: 2
Licensee: DBI, Inc. License No.: 21-B805
Inspection Type: Routine, Announced Priority: 1
Inspection Date: 5/6/14 Inspector: AS

Accompaniment No.: 3
Licensee: Shawnee Mission Medical Center License No.: 19-C264-01
Inspection Type: Routine, Announced Priority: 2
Inspection Date: 5/7/14 Inspectors: JB, JW

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Licensee: Cardinal Health 414 LLC — License No.: 10-C956
Type of Action: New — Amendment No.: 0
Date Issued: 12/5/11 — License Reviewer: JH

File No.: 2
Licensee: Acuren Inspection Inc. — License No: 21-B126-01
Type of Action: Renewal — Amendment No.: 45
Date Issued: 4/22/14 — License Reviewer: JW

File No.: 3
Licensee: Cushing Memorial hospital St Luke's Health System — License No.: 19-B374-01
Type of Action: Amendment — Amendment No.: 29
Date Issued: 11/7/13 — License Reviewer: AS

Comment: An authorized radiologist was added to the license without proper documentation regarding training, experience, and preceptor attestation.

File No.: 4
Licensee: Coffeyville Resources Refining — License No.: 22-B097-01
Type of Action: Amendment — Amendment No.: 33
Date Issued: 5/15/12 — License Reviewer: JH

File No.: 5
Licensee: Como Tech Inspection Inc. — License No.: 21-B629-01
Type of Action: Renewal — Amendment No.: 19
Date Issued: 2/19/13 — License Reviewer: JW

File No.: 6
Licensee: Cotton O'Neil Clinic — License No.: 19-B550-01
Type of Action: Termination — Amendment No.: NA
Date Issued: 11/22/12 — License Reviewer: JW

File No.: 7
Licensee: Hays Medical Center St Anthony Campus — License No.: 19-B261-01
Type of Action: Amendment — Amendment No.: 62
Date Issued: 7/5/11 — License Reviewer: JS

File No.: 8
Licensee: Kansas State University — License No.: 38-C011-01
Type of Action: Amendment — Amendment No.: 76
Date Issued: 1/21/14 — License Reviewer: JB

File No.: 9
Licensee: Lawrence Memorial Hospital License No.: 12-B161-01
Type of Action: Amendment Amendment No.: 54
Date Issued: 8/28/13 License Reviewer: JW

Comment: An authorized radiologist was added to the license without proper documentation regarding training, experience, and preceptor attestation.

File No.: 10
Licensee: Lead Testers, LLC License No.: 22-B948
Type of Action: Amendment Amendment No.: 1
Date Issued: 7/5/11 License Reviewer: JB

File No.: 11
Licensee: Mercy Regional Health Center, Inc. License No.: 19-B528-01
Type of Action: Amendment Amendment No.: 1
Date Issued: 2/8/13 License Reviewer: JW

Comment: An authorized radiologist was added to the license without proper documentation regarding training, experience, and preceptor attestation.

File No.: 12
Licensee: Mission Medvet License No.: 33-B729-01
Type of Action: Termination Amendment No.: NA
Date Issued: 1/29/13 License Reviewer: JB

File No.: 13
Licensee: Mitchell County Hospital License No.: 19-B355-01
Type of Action: Renewal Amendment No.: 28
Date Issued: 9/5/13 License Reviewer: JB

File No.: 14
Licensee: Quintiles Phase I Service, Inc. License No.: 16-B678-01
Type of Action: Renewal Amendment No.: 13
Date Issued: 6/20/11 License Reviewer: JB

File No.: 15
Licensee: Saint Luke's South Hospital License No.: 19-B775
Type of Action: Amendment Amendment No.: 24
Date Issued: 7/12/13 License Reviewer: JW

Comment: An authorized radiologist was added to the license without proper documentation regarding training, experience, and preceptor attestation.

File No.: 16
Licensee: VCA Mission Animal Referral
License No.: 33-B965
Type of Action: Amendment
Amendment No.: 1
Date Issued: 4/11/14
License Reviewer: JH

File No.: 17
Licensee: West Central Kansas Association
License No.: 12-B975
Type of Action: New
Amendment No.: 0
Date Issued: 7/1/13
License Reviewer: JB

File No.: 18
Licensee: XCEL NDT LLC
License No.: 21-B980
Type of Action: Amendment
Amendment No.: 2
Date Issued: 5/15/14
License Reviewer: DL

File No.: 19
Licensee: Fort Hays State University
License No.: 31-B049-01
Type of Action: Amendment
Amendment No.: 30
Date Issued: 9/5/13
License Reviewer: JB

File No.: 20
Licensee: Wesley Medical Center LLC
License No.: 19-C041
Type of Action: Renewal
Amendment No.: 76
Date Issued: 8/8/13
License Reviewer: JH

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS.

File No.: 1
Licensee: Kansas Department of Transportation
Date of Incident: 9/23/10
Investigation Date: 10/12/10
License No.: 22-B315-01
NMED No.: 100509
Type of Incident: Lost RAM
Type of Investigation: Telephone

File No.: 2
Licensee: Frontier El Dorado Refining, LLC
Date of Incident: 2/25/11
Investigation Date: 2/25/11
License No.: 22-B145-01
NMED No.: 110161
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 3
Licensee: Frontier El Dorado Refining, LLC
Date of Incident: 10/4/11
Investigation Date: 10/5/11
License No.: 22-B145-01
NMED No.: 110529
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 4
Licensee: PFI, LLC
Date of Incident: 9/30/11
Investigation Date: 12/9/11
License No.: 10-C842-01
NMED No.: 110616
Type of Incident: Overexposure
Type of Investigation: Site

File No.: 5
Licensee: PETNET Solutions
Date of Incident: 2/22/12
Investigation Date: 3/21/12
License No.: 10-C814-01
NMED No.: N/A
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 6
Licensee: St. Francis Health Center
Date of Incident: 1/23/13
Investigation Date: 1/23/13
License No.: 19-B272-04
NMED No.: 130067
Type of Incident: Transportation
Type of Investigation: Telephone

File No.: 7
Licensee: Frontier El Dorado Refining, LLC
Date of Incident: 4/3/13
Investigation Date: 4/3/13
License No.: 22-B145-01
NMED No.: 130167
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 8
Licensee: Frontier El Dorado Refining, LLC
Date of Incident: 4/20/13
Investigation Date: 4/22/13
License No.: 22-B145-01
NMED No.: 130184
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 9
Licensee: Coder X-ray Service
Date of Incident: 4/23/13
Investigation Date: 6/9/13
License No.: 21-B165-01
NMED No.: 130275
Type of Incident: Overexposure
Type of Investigation: Telephone

File No.: 10
Licensee: Coder X-ray Service
Date of Incident: 8/5/13
Investigation Date: 9/4/13
License No.: 21-B165-01
NMED No.: 130400
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 11
Licensee: J and R Sand Company, Inc.
Date of Incident: 9/30/13
Investigation Date: 10/21/13
License No.: 22-B623-01
NMED No.: 130494
Type of Incident: Damaged Equipment
Type of Investigation: Telephone

File No.: 12
Licensee: St. Francis Health Center
Date of Incident: 10/31/13
Investigation Date: 11/1/13
License No.: 19-B272-04
NMED No.: 130521
Type of Incident: Overexposure
Type of Investigation: Telephone

File No.: 13
Licensee: DBI, Inc.
Date of Incident: 2/17/14
Investigation Date: 2/17/14
License No.: 21-B805-01
NMED No.: 140110
Type of Incident: Equipment Failure
Type of Investigation: Telephone

File No.: 14
Licensee: Pioneer Wireline Services
Date of Incident: 12/31/13
Investigation Date: 3/26/14
License No.: 27-B565-01
NMED No.: 140225
Type of Incident: Overexposure
Type of Investigation: Email

Comment: At the time of the review, an on-site investigation had not yet been performed by the State, in spite of evidence of a significant exposure to an untrained individual, and potential overexposures to members of the public.

ATTACHMENT

August 12, 2014 Letter from Thomas Conley
Kansas Response to the Draft Report
ADAMS Accession No.: ML14230A753

Division of Public Health
Bureau of Environmental Health
1000 SW Jackson, Ste 330
Topeka, KS 66612-1365

Kansas
Department of Health & Environment

Phone: 785-296-1560
Fax: 785-296-0984
BEH@kdheks.gov
www.kdheks.gov

Robert Moser, MD, Secretary

Sam Brownback, Governor

August 12, 2014

Duncan White, Chief
Agreement State Programs Branch
Two White Flint North, MS 8 E24
11545 Rockville Pike
Rockville, MD 20852-2738

Dear Mr. White:

Thank you for the opportunity to provide comments on the draft Integrated Materials Performance Evaluation Program (IMPEP) report we received on August 18, 2014. IMPEP reports serve as an extremely valuable tool that Radiation Control Programs (RCPs) and NRC Regions use to continuously improve their efforts to protect the public health from the harmful effects of radiation. As such, it is essential that the report contain detailed and constructive information which an RCP can use to achieve the common goal that all Agreement States and the Nuclear Regulatory Commission have of protecting the health and safety of the public.

We'd like to take this opportunity to commend NRC and the Agreement States on their on-going efforts to improve the IMPEP process and make it an even more useful tool for improvement. To that end we offer the following feedback on our latest IMPEP review with the hopes that this will be passed on to the IMPEP working group for consideration:

1. We commend the team as a whole on their professionalism and thoroughness of their review which has resulted in significant improvements to our program. Even though some of the findings of an IMPEP team may be distressing, it is only through such professionalism that the program and review team can work together to find the causes and improve the program.
2. We commend Ms. Shirley Xu specifically for taking the time to explain the nuances of 10 CFR 35.300 to our staff. Her explanation made it very clear where we had gone wrong and allowed us to determine the best way to correct these problems.
3. The listings of the case studies are very useful to the program being reviewed as it provides us the opportunity to look at exactly what the reviewer did so we can fully understand what the reviewer found. However, the use of generic statements in the comments defeats the purpose of listing the case studies. These comments should be general in nature but contain enough detail that the program can extract the example from the file.

In the interest of accuracy and detail we offer the following comments, suggestions and updates which will be addressed in the order in which they appear in the report.

Section 3.1 Technical Staffing and Training Comments
Page 3 Paragraph 3

The first two sentences of this paragraph contain an error in the number of full-time equivalents and should be replaced with:

> "At the time of the review, five technical staff members, plus the supervisor, totaling 5.5 full-time equivalents (FTE) had direct involvement in the daily operations of the radioactive materials program. All of the technical staff members are allocated 5 percent of their FTE for nuclear power plant emergency response with one allocated an additional 20 percent to perform asbestos program activities."

Section 3.2 Status of Materials Inspection Program Comments
Paragraph 3 Sentence 4

Because Kansas is an Agreement State, this sentence should be more appropriately worded as follows:

"Section procedures, in agreement with IMC 2800, state initial inspections should be conducted within 12 months of license issuance."

Page 4 Paragraph 1

References in this paragraph to transmitting inspection reports should be changed to transmitting inspection findings. The actual inspection reports are not transmitted to the licensee except upon request. A letter is sent transmitting the inspection findings. In addition it is suggested that to address a contributing factor the last sentence be replaced with the following which addresses the improvement of monitoring these transmissions:

"Section management determined that computer generated reports used to monitor the timeliness of inspection activities were not providing sufficient detail to monitor the transmittal of inspection findings. This has been addressed by modifying the reports and section management will be more closely monitoring the timely transmittal of inspection findings."

Section 3.3 Technical Quality of Inspections Comments
Page 5 Paragraph 4

The IMPEP report should address not only the areas needing improvement but those areas where the team noted strengths. It is suggested that the following sentence be added to this paragraph:

"The review team noted that the computer generated inspection reports supported a good format for a narrative of the inspectors observations and findings. Examples of these reports were taken by two of the review team members."

Section 3.4 Technical Quality of Licensing Actions Comments
Page 6 Paragraph 5 Last Sentence

To more accurately represent the licensing guidance used by the Section this sentence should be replaced with the following:

"The Section has Kansas specific guidance documents for the common types of licenses issued but also uses the NRC's NUREG-1556 series for additional licensing guidance."

Page 7 Paragraph 1

The following paragraph is implies a much broader scope of an issue than what the team discussed during the review and doesn't clearly convey the findings of the review team:

"The review team identified repeated examples of problems with respect to thoroughness, completeness, consistency, and adherence to existing guidance for medical licensing actions. The review team recommends that the State review all active medical licenses and verify that previously approved authorized users, authorized medical physicists, radiation safety officers, and authorized nuclear pharmacists have the proper board certification or training requirements, and preceptor attestation; and develop and implement a process that will ensure proper verification and documentation of user qualifications for 10 CFR 35.300 (KAR 28-35-264) uses of byproduct material."

The following suggested replacement paragraph conveys the findings of the review team as discussed during the review and in the body of draft report:

"The review team identified repeated examples of problems authorizing users for 10 CFR 35.300 (KAR 28-35-264) uses with respect to thoroughness, completeness, consistency, and adherence to existing guidance for medical licensing actions. The review team recommends that the State review all active medical licenses and verify that previously approved authorized users have the proper board certification or training requirements, and preceptor attestation; and develop and implement a process that will ensure proper verification and documentation of user qualifications for 10 CFR 35.300 (KAR 28-35-264) uses of byproduct material. While no problems were identified during the review with respect to authorized medical physicists, radiation safety officers, and authorized nuclear pharmacists, as a result of subsequent discussions the Section may feel it is prudent to review a sampling of the training and experience of these individuals."

Update

Root causes:

- After review of all of the active licenses authorizing 10 CFR 35.300 uses it has been determined that issues identified by the review team and Section staff are related to a significant paradigm shift in licensing when the new Part 35 was adopted. The prior paradigm for training and experience was focused on patient release criteria as opposed to a specific procedure based paradigm. As a result, the Section did not correctly transition to this new paradigm.
- Licensing by restriction has been the historical format, particularly for medical licenses. This has resulted in a confusing array of inconsistent wording and erroneous authorizations.

The following corrective actions have been or are being taken:

- Each of the 10 CFR 35.300 medical licensees were contacted to determine if any users were performing procedures that they were not qualified for. No users performing unqualified procedures have been identified.
- An audit of all active medical licenses authorizing 10 CFR 35.300 uses has been completed. An additional two license actions were found to be in error similar to those found by the review team.
- An audit of all other active medical licenses is currently underway.
- Changes to the database have been completed which will allow license reviewers to enter information about training and experience. When an attempt is made to authorize a user for uses they are not qualified for a message will be given stating the user is not qualified and give the reviewer an opportunity to update that persons record. This will apply to all users not just medical. At this time the qualification data is being populated. Upon completion, licenses with improperly authorized users will be amended.
- Section procedures are being revised to adopt a new license format. Licensing by restriction will be the exception rather than the rule for medical licenses. Instead of authorizing a user for 35.300 except X, Y and Z they will be authorized for the uses referenced in 35.392, 35.394 or 35.396 as appropriate. This change has already been incorporated into the database.

Section 3.5 Technical Quality of Incident and Allegation Activities

Update

An investigation team of one supervisor and three inspectors was sent to the licensee's facility where reenactments and time and motion studies were performed. Employees and management were interviewed both together and separately. The team then observed a well logging operation in the field noting that the operation was conducted using the licensee's revised procedures. The investigation is complete and two individual's received overexposures, one received 5.122rem TEDE and the other received 50.14rem SDE to the extremity. There was no public exposure. We are currently evaluating potential enforcement actions.

Root Causes:

- There was insufficient management oversight of this particular investigation.
- The Section's procedure on incidents and allegations did not have guidance on when an onsite investigation should be conducted.

The following corrective actions are being taken:

- There will be closer management oversight of incidents in the future.
- The incident and investigation procedure has been revised to include a preliminary priority evaluation, based on initial information, using our severity level tool to determine when an onsite investigation is warranted.

Section 4.1.2 Program Elements Required for Compatibility
Paragraph 3 Sentence 2

The IMPEP report should address not only the areas needing improvement but those areas where the team noted strengths. We suggest this sentence be changed to read:

> "Kansas is up to date on the adoption of regulation packages, which the review team noted was not a common finding during IMPEP reviews."

Update on the three previously submitted regulation packages
"Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material," RATS 2001-1, has been closed with no comments 07/29/2014, ML14162A452
"Exemptions from Licensing, General Licenses, and Distribution of Byproduct Material; Licensing and Reporting Requirements," and "Requirements for Expanded Definition of Byproduct Material," are addressed in our regulatory process database and are included in the next regulatory package to be submitted.

Recommendations
To be consistent with the comment made in Section 3.4 "Technical Quality of Licensing Actions" the recommendation should be reworded as follows:

> "The review team recommends that the State review all active medical licenses and verify that previously approved authorized users have the proper board certification or training requirements, and preceptor attestation; and develop and implement a process that will ensure proper verification and documentation of user qualifications for 10 CFR 35.300 (KAR 28-35-264) uses of byproduct material."

Appendix E "Incident Casework Reviews" Comments
File number 12

The comment should be changed to read as follows to ensure it is clear the investigation was still open at the time of the review:

> "At the time of the review an on-site investigation had not yet been performed by the State, in spite of evidence of a significant exposure to an untrained individual, and potential overexposures to members of the public."

Thank you for the opportunity to comment on the draft IMPEP report and we look forward to discussing the draft final report with the Management Review Board on September 4, 2014.

Sincerely,

Thomas Conley, CHP
Section Chief, Radiation and Asbestos Section
(785) 296-1565
tconley@kdheks.gov

cc: James Lynch
Binesh Tharakan