



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD
ARLINGTON TX 76011-4511

December 11, 2015

SURGEON GENERAL OF THE AIR FORCE
AIR FORCE MEDICAL SUPPORT AGENCY (AFMSA)
AFMSA/SG3P
ATTN: Colonel David L. Cunningham
7700 Arlington Blvd, Suite 5151
Falls Church, VA 22042-5151

SUBJECT: NRC INSPECTION REPORT 03028641/2015001

Dear Col. Cunningham:

This letter refers to the announced U.S. Nuclear Regulatory Commission (NRC) team inspection conducted on October 26-29, 2015. The purpose of the inspection was to review the activities authorized under the Department of the Air Force, United States Air Force (USAF) Radioisotope Committee (RIC) Master Materials License (MML). At the conclusion of the inspection on the morning of October 29, 2015, the NRC team exited with the RIC staff and the NRC findings were discussed with you as the USAF RIC Chair and Lt. Colonel Anthony J. Cagle, RIC Secretariat.

The inspection consisted of an examination of activities conducted under the USAF RIC's MML license as the activities relate to safety and compliance with the Commission's rules and regulations and with the conditions of the MML. Areas that were examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

The team noted that, although the RIC had achieved a successful balance during the inspection interval in the managing of the permitting and inspection workload and had effectively implemented a centrally controlled program during the review period, there were at present two vacancies with an impending third vacancy when the AFIA inspector retires in calendar year 2016. In another critical area, the team noted that the RIC had recently decided not to renew a contract for a staff member who was primarily responsible for maintaining the Radioactive Materials Management Information System (RAMMIS) database. The RAMMIS database is very crucial to the success of the USAF MML implementation and for ensuring that all radioactive material is carefully tracked throughout the vast number of Air Force Bases. The inspection team is concerned that the lack of qualified personnel to manage RAMMIS, along with the staff shortages, could adversely impact the effectiveness of the program if left unfilled. Discussion with the RIC, Chairperson, confirmed that this issue had become a critical area that he was aware of and realized that addressing the issue required immediate attention of the RIC and that the RIC was diligently working the issue.

The NRC determined that, overall; the USAF RIC implemented its MML in accordance with NRC licensing and inspection policies and procedures and in a manner that protects public health, safety, and security. No violations were identified during this inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions concerning this inspection, please contact Ms. Michelle Simmons at 817-200-1590 or the undersigned at 817-200-1197.

Sincerely,

/RA/

Jack E. Whitten, Chief
Nuclear Materials Safety Branch B
Division of Nuclear Materials Safety

Docket: 030-28641
License: 42-23539-01AF

Enclosure:
NRC Inspection Report 03028641/2015001
w/Attachments:

1. Supplemental Information –
2. Appendix A –
Inspection Casework Reviews
3. Appendix B –
List of Independent Inspections and
Inspector Accompaniments
4. Appendix C –
Permitting Casework Review

cc w/encls: Lt. Colonel Anthony J. Cagle, USAF

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cc w/encls: Lt. Colonel Anthony J. Cagle, USAF

Distribution: See next page

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket: 030-28641

License: 42-23539-01AF

Report: 03028641/2015001

Licensee: Department of the Air Force
USAF Radioisotope Committee

Location: Falls Church, Virginia

Inspection Dates: October 26-29, 2015

Inspectors: Michelle R. Simmons, Health Physicist
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Region IV

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Approved By: Jack E. Whitten, Chief
Nuclear Materials Safety Branch B
Division of Nuclear Materials Safety
Region IV

EXECUTIVE SUMMARY

Department of the Air Force
United States Air Force Radioisotope Committee
NRC Inspection Report 03028641/2015001

This announced U.S. Nuclear Regulatory Commission (NRC) team inspection was conducted to evaluate the United States Air Force (USAF) Radioisotope Committee (RIC) implementation and administration of activities conducted under the provisions of the Master Materials License (MML). The inspection included an assessment of the USAF RIC's quarterly meetings, management oversight of the radiation safety and regulatory compliance program, a sample review of the completed permitting actions, an evaluation of the RIC's events or incidents and allegation response program, an evaluation of the adequacy of the RIC's technical staffing and training, and a review of the Air Force Inspection Agency's (AFIA's) inspections of permitted facilities.

Licensed activities conducted by the USAF RIC during the period of April 25, 2013, through October 25, 2015, were reviewed during this inspection. Through interviews and discussions with RIC staff, an evaluation of the materials contained in USAF's response to the October 7, 2015, NRC questionnaire, reviews of documents related to MML activities, and observations of RIC staff in the performance of their duties, the NRC inspection team concluded overall that the USAF RIC's permitting and inspection programs were implemented in a manner that protected the health and safety of workers and the general public and maintained the physical security and control of radioactive materials under the USAF RIC's control. The program areas assessed during this team inspection are summarized below:

Management Oversight

The inspection team determined that the USAF had centralized control over its radioactive materials program and provided adequate management oversight of the implementation of its MML. The inspection team concluded that the RIC Secretariat, with oversight from the RIC, conducted and controlled the USAF licensed activities in a manner that ensured compliance with the conditions of the MML, associated Letter of Understanding (LOU) between the NRC and the USAF, the NRC's regulations, procedures and protocol, and ensured the protection of the health and safety of its employees and the public and maintained the physical control and oversight of radioactive materials under the MML.

Technical Staffing and Training

The inspection team concluded that the RIC staff was qualified to perform the regulatory duties of a MML licensee. The AFIA inspector was qualified to conduct safety and security inspections and the RIC Action Officers (AO) were qualified in accordance with the USAF MML and the LOU to conduct reviews of permit applications. The NRC inspection team noted that the RIC had developed a formalized process to conduct and document inspection accompaniments of the AFIA inspector.

The team also noted that, although the RIC achieved a successful balance in the management of the permitting and inspection workload, while effectively implementing a centrally controlled program during the review period, there were at present two vacancies and an impending third vacancy for the retirement for the AFIA inspector. The inspection team and NRC management believe that the lack of three qualified personnel could adversely impact the effectiveness of the

program if these position were left unfilled. Discussion with the RIC, Chairperson, confirmed that this issue had become a critical area that he was aware that required immediate attention of the RIC and that he could assure the NRC that the RIC was working the issue and would be soon proposing possible solutions to the staffing issue to the NRC.

Status and Technical Quality of Materials Inspection Program

The inspection team concluded that the licensee's inspection program was adequate in depth and scope. The team also noted that inspection findings were well-founded, supported by NRC regulations, appropriately documented, and communicated to permittees in a timely and efficient manner. The team also concluded that overall, the licensee conducted inspections in accordance with the intervals described in NRC Inspection Manual Chapter (IMC) 2800. The inspection team determined that the licensee had appropriately assigned priority codes and inspection due dates to permittee programs.

National Source Tracking System Program

The inspection team concluded that the licensee's program for maintaining and updating the National Source Tracking System (NSTS) was adequate and implemented effectively. Additionally, the NRC inspectors confirmed that all sealed sources possessed by the USAF permittees were included in the NSTS registry as required.

NRC Independent Inspections of Air Force Permittees

Based on the results of the NRC's independent inspections, the inspection team concluded that permittee activities were conducted in a manner that protected the health and safety of the licensee's staff, the environment the public, and maintained the physical security and control of radioactive materials under the USAF RIC's control.

Status and Technical Quality of Materials Permitting Program

The inspection team concluded that the RIC staff processed permitting actions in a manner that was consistent with NRC licensing policies, procedures, protocol, and guidance. An area of improvement noted by the inspection team since the last biennial inspection included the use of a RIC developed comprehensive quality control process to allow the staff to correct administrative and technical inconsistencies before permits are issued. This quality assurance mechanism ensured that a complete and high quality product was issued to the permittees. This use of this quality assurance mechanism resulted in the RIC Secretariat updating medical permit templates and permit conditions, specifically the physical inventory permit conditions which now requires a physical photo of the sealed sources inventoried.

Allegation and Incident Handling Programs

The NRC inspection team concluded that the licensee's allegation and incident handling programs were conducted in a manner consistent with the conditions of the MML and that reportable events that arose were reported to the NRC in accordance with regulatory requirements.

REPORT DETAILS

1 Program Overview

The Department of the Air Force, USAF RIC is authorized under NRC MML Number 42-23539-01AF to issue byproduct, source, and special nuclear material permits throughout the United States. In April 2013, the RIC maintained oversight for 107 permittees. Currently, the USAF RIC maintains oversight for 86 permittees, a significant reduction in permits since the biennial inspection in April 2013. The permits cover a wide range of program activities that include: research and development, medical, irradiator, disaster preparedness and readiness, waste disposal and decontamination, and other activities required to support the mission of the USAF. The MML was issued on June 26, 1985, and does not have an expiration date. The USAF RIC, at the request of the NRC, submitted a license refresh amendment in its entirety on May 21, 2008. The NRC established a technical team to review the refresh amendment submittal and LOU between the NRC and USAF. The project manager for the USAF MML serves as the team lead for the license refresh. Other team members include the NRC project managers for the Navy and Department of Veterans Affairs MMLs, the NRC Headquarters Project Coordinator for the MMLs, and a representative of the NRC's Office of General Counsel (OGC). The review of the license refresh amendment submittal was ongoing at the time of the inspection.

2 Management Oversight

2.1 Inspection Scope

The NRC inspection team evaluated the licensee's organization and management oversight activities to determine whether the USAF, through the RIC and the RIC Secretariat, had implemented its NRC licensed program in accordance with NRC regulations and the conditions and commitments in its MML in a manner that protected the public health and safety, environment, and maintain the physical security of the radioactive materials authorized under the MML. The evaluation included observations of the RIC quarterly meetings, discussions with licensee representatives, and a review of the program documentation.

The team also evaluated the methods used by the USAF to communicate with the USAF major commands and permittee radiation safety officers (RSOs). The evaluation included observations of RIC quarterly meetings, discussions with licensee representatives on the methods used to communicate with USAF personnel, and a review of examples of various forms of communication, and onsite inspection activities at selected USAF MML permittees.

2.2 Observations and Findings

Air Force Instruction (AFI) 40-201, entitled "Radioactive Materials (RAM) Management," describes policy and guidance that the USAF implements for the management and control of radioactive material authorized under the USAF MML. It also establishes policies and procedures for the acquisition, possession, use, storage, security, and disposal of radioactive material by USAF permittees under the MML.

The USAF Surgeon General establishes policy and guidance for controlling ionizing and non-ionizing radiation hazards in the USAF. The USAF RIC oversees the implementation of the MML. Organizationally, the RIC is under the USAF Assistant Surgeon General, Healthcare Operations, who delegated responsibility for the Chair of the RIC to the Chief, Aerospace Medicine Operations.

The Chief of Aerospace Medicine Operations has oversight for the four program areas that included public health, flight medicine, bioenvironmental engineering, and aerospace physiology. The management of the USAF radiation program is under the Bioenvironmental Engineering (BEE) Branch. In support of the MML, the BEE develops operational and medical radiation safety policy for ionizing and non-ionizing radiation, and performs other tasks as assigned by the Department of Defense and USAF committees. Policy, guidance, and associated documents are developed by the BEE and provided to USAF permittees for implementation.

The BEE is responsible for maintaining the AFI 40-201, which is essential in implementing the MML. Program elements in AFI 40-201 describe specific requirements for permitting, procuring, controlling, and disposal of radioactive material, conducting inspections and investigations, responding to incidents, and managing allegations. The RIC is under the BEE and manages the day-to-day activities of the MML, and is appointed by the RIC. These activities included, but were not limited to, issuing permits and enforcement actions, investigating incidents and allegations, and ensuring the conditions of the MML and LOU are implemented. The RIC received support from USAF management to fulfill its responsibilities under the MML, and successfully managed projects that were assigned by the RIC or requested by the NRC, during the review period. A revised and updated LOU was signed on September 19, 2014.

The RIC members represented USAF offices and organizations that oversee or directly utilize radioactive materials permitted by the RIC. Voting and alternate representatives are appointed to the RIC as specified in AFI 40-201. The RIC convened on a quarterly basis during the review period and met the minimum number of participants required for a quorum. The quarterly meetings covered a wide-range of topics that included, but were not limited to, a discussion of inspection results, permitting actions, enforcement, personnel exposure results, decommissioning activities, and training. The NRC USAF MML Project Manager observed the quarterly RIC meetings and noted that members were actively engaged and involved with the meeting discussions. The RIC staff members routinely participated in a one on one discussion with the NRC Project Manager following each quarterly meeting providing the RIC staff an open forum to address and discuss specific issues or concerns, ask specific questions of the NRC representative(s), request support for unique licensing issues, and discuss ongoing decommissioning activities. In addition, the USAF established an ad hoc radiation safety committee that meets monthly and includes and addresses all radiation disciplines, including but not limited to, ionizing radiation, non-ionizing radiation, lasers, and electro-magnetic frequency.

The inspection team reviewed the mechanisms, tools, methods that were used by the RIC to communicate items of interest to its permittees. The primary methods of communication utilized by the RIC staff were periodic e-mails to base and permittee RSOs, the Air Force Medical Support (AFMS) website which is maintained and

updated by RIC, and periodic newsletters from the BEE branch. The website also contained the AFI 40-201, relevant NRC forms, and links to *Title 10 of the Code of Federal Regulations*.

The inspection team also reviewed the USAF annual program reviews. Since the last biennial inspection conducted in 2013, the USAF had completed two program reviews. The reports for the calendar years 2013 and 2014 were issued on February 15, 2014, and February 15, 2015, respectively. The reviews were conducted by the RIC and the reports described quality control of permitting actions through peer review, results of a review of internal procedures, and identification of actions taken to make improvements in the program. In addition, the RIC requested an external program review to be conducted by the AFIA. This external assessment was completed in February 2015.

2.3 Conclusion

The NRC inspection team determined that there was effective management oversight of radioactive materials program licensed under the USAF MML. Oversight provided by the USAF was sufficient to ensure that activities were in place to protect the health and safety of USAF employees, the environment, the public and maintaining the physical security and control of radioactive materials under the USAF RIC's control. The RIC had implemented a centralized radiation safety program and successfully executed its responsibility as required by the MML and the associated LOU, revised on September 19, 2014. The team also noted that during the period of review for this biennial inspection, the RIC actively focused on maintaining and improving communications with its permitted facilities. The inspection team concluded that the USAF, through the RIC and RIC Secretariat, conducted and controlled the MML activities in a manner that ensured compliance with the conditions of the MML and associated LOU, the AFI 40-201, and NRC's regulations, procedures, and protocol.

3 **Technical Staffing and Training**

3.1 Inspection Scope

The NRC inspection team reviewed the licensee's radioactive materials program staffing level and turnover, as well as the technical qualifications and training history of the RIC staff members. In evaluating these elements, the team interviewed program management staff and reviewed the RIC training program and supporting documentation.

3.2 Observations and Findings

At the time of the inspection the USAF RIC was staffed by a Chief, a Deputy Chief, and two full-time AOs (i.e., permit reviewers). These staff members were located in Falls Church, Virginia.

At the time of the review, there were three vacancies for an AO which had not been filled. One position was to be filled by the end of the year. However there was no immediate plans in place to fill the remaining two positions. Nonetheless, the RIC

Chairperson was aware of the critical need to fill these position and was working this staffing issue with the RIC Secretariat and other RIC members.

The program currently utilizes one fully trained inspector to conduct inspections under the MML. The inspector (who is assigned to the AFIA) is located in New Mexico, and is fully qualified to independently conduct inspections of USAF permittees in accordance with the MML. Management accompaniments of the AFIA inspector were conducted on an annual basis. The licensee adopted a methodology for documenting the accompaniments similar to that which is implemented by the NRC. The AFIA inspector is expected to retire in calendar year 2016 and the licensee is in the process of planning for his successor. Although AFI 40-201 stipulates that RIC staff can perform independent inspections, the RIC staff have not performed any inspections to date.

All RIC AOs attended the required NRC Licensing Practices and Procedures course and several staff had attended other NRC courses applicable to the specific types of activities authorized on the MML. The AOs were trained in accordance with SOP RIC-SE-9, "Radioisotope Committee Secretariat (RICS) Action Officer (AO) Training." In addition, all fully qualified AOs were trained in SOP RIC-SE-1, "Permitting Procedures."

3.3 Conclusion

The inspection team concluded that the RIC staff as currently staffed was qualified to perform the regulatory duties of a MML licensee. The AFIA inspector was qualified to conduct safety and security inspections and the RIC AOs were qualified in accordance with the USAF MML and the LOU to conduct reviews of MML permit applications. The NRC inspection team noted that the RIC had developed a formalized process to conduct and document inspection accompaniments of the AFIA inspector.

The team also noted in conducting the inspection that, although the RIC achieved a successful balance in the management of the permitting and inspection workload, while at the same time effectively implementing a centrally controlled program during the review period, there were two vacancies and an impending retirement for the AFIA inspector, which if these positions were not filled could adversely impact the effectiveness of the program. Discussion with the RIC, Chairperson, confirmed that this issue had become a critical area of concern and required the immediate attention of the RIC. He also stated that he could assure the NRC that the RIC was focusing resources to resolve the issue.

4 Status and Technical Quality of Inspections

4.1 Inspection Scope

The inspection team reviewed selected inspection plans, inspection reports, enforcement documents, and correspondence associated with inspections conducted during the review period to determine if the licensee implemented its inspection program in a fashion which was consistent with the NRC's inspection policies and procedures. The inspection team

reviewed the licensee's inspection frequencies for permittees, and its timeliness for completing inspections.

In evaluating these elements, the inspection team visited to the Inspector General's operations in New Mexico to review and discuss the inspection activities, interviewed licensee staff and the Air Force Inspection Agency/Inspector General (AFIA/IG) inspector, reviewed permittee inspection files and licensee inspection data. The NRC staff also conducted 12 independent inspections of permittees under the MML in order to evaluate their compliance with NRC regulations and conducted an onsite visit to the inspectors IG facilities in Kirtland AFB in New Mexico for purposes of discussing the MML inspection program.

4.2 Observations and Findings

The inspection team determined that at the time of the on-site review, the licensee had 105 permittees subject to routine inspections. The team determined that the AFIA/IG inspector, who is located at the Kirtland AFB in New Mexico, conducted all of the inspections during the review period. The team noted that some permittees under the MML had more than one permit and for purposes of efficiency, the AFIA/IG inspector would inspect each permit during an inspection trip.

The inspection team in reviewing the inspection records determined that the licensee had developed checklists and field notes for each inspection type. The inspector used these as an aides in conducting performance based inspections to ensure that complete and thorough inspections were performed and that all safety significant items were addressed. The licensee conducted 53 inspections between April 2013 and October 2015. Thirty-seven were in compliance, 16 were not in compliance, and two permittees had not yet received material. Of the 16 inspections that were not in compliance, one received a Severity Level (SL) III violation. The inspection team concluded that this was a Severity Level III violation based on the Air Force's standards and not the NRC's. The AFIA/IG inspector conducted a six month follow-up inspection and confirmed that the licensee was in compliance following the SL III enforcement action. One inspection remained open pending additional review that was needed to resolve potential occupational dosimetry issues which were identified by the AFIA/IG inspector.

The inspection team determined that at the time of the inspection, the licensee had three permittees subject to 10 CFR Part 37 requirements. Two of the three permittees were inspected by the AFIA/IG inspector during the biennial review period. The inspection team determined that the inspector had performed the security inspections concurrently with the safety inspections.

Based on an interview of the AFIA/IG inspector, the team determined that the inspector was technically knowledgeable in radiation safety practices and NRC regulations. The inspector utilized inspection checklists in an effective manner while performing inspections. If non-compliance was identified, the inspector properly documented and cited violations. The inspection findings and potential violations were communicated to the Air Force MML management and the RIC. Written reports with inspection findings and violations, including the Severity Level or recommendations for improvement, were issued to the permittee.

The inspection team determined that the licensee established inspection procedures and frequencies which were consistent with NRC IMC 2800. With one exception, routine inspections were performed within the required timeframes (i.e., intervals less than + or - 25 percent). One inspection was noted by the team as being overdue as a result of an oversight during the scheduling process. The overdue inspection was previously identified to the RIC by the AFIA/IG inspector, who developed a plan to complete the inspection by end of November 2015.

The inspection team determined that the licensee maintained databases to support the day-to-day management and planning of the inspection program. The Radioactive Materials Management Information System (RAMMIS) was utilized by the RIC staff for basic permit and inspection information. Another database included an excel spreadsheet utilized by the AFIA/IG inspector to track permittee inspection due dates.

The inspection team determined through interviews with licensee staff that with the exception of initial inspections, routine inspections conducted by the AFIA/IG inspector during the review period were all unannounced.

The list of inspection casework files reviewed is found in Appendix A.

4.3 Conclusion

The inspection team concluded that the licensee's inspection program was adequate to ensure that inspection findings were well supported, appropriately documented, and communicated to permittees in a timely and efficient manner. The team also concluded that with one exception, the licensee conducted inspections in accordance with the intervals described in NRC IMC 2800. The inspection team determined that the licensee appropriately assigned priority codes and inspection due dates to permittee programs.

5 National Source Tracking System (NSTS) Program

5.1 Inspection Scope

The inspection team reviewed the licensee's program for updating the NSTS. The review included interviews of licensee staff that were responsible for entering the information into NSTS, the method that was used to enter the information into the NSTS database, and how the Air Force communicated with the NRC regarding NSTS matters. The team assessed the communications between the permittees and the RIC to evaluate the effectiveness and timeliness of updates to the NSTS.

5.2 Observations and Findings

The inspection team determined that the licensee computer system did not allow the AO to download the required certificates necessary to access the NRC's NSTS computer database. Therefore, changes/corrections were sent via email to the NSTS Help Desk using NRC Form 748. The team confirmed that the annual NSTS reconciliation was completed on January 29, 2015.

One individual was credentialed and authorized to act on behalf of the licensee and update the NSTS. All permittees received an e-mail request from the authorized staff member to update their respective NSTS information. The authorized individual subsequently transferred the permittee data to the NSTS via facsimile during the annual reconciliation effort prior to the January 31, 2015 deadline.

5.3 Conclusion

The inspection team concluded that the licensee's program for maintaining and updating the NSTS was adequate and implemented effectively. Additionally, the NRC inspectors confirmed that all sealed sources that were required to be included in the NSTS registry were appropriately entered into the system.

6 NRC Independent Inspections of Licensee Permitted Facilities

6.1 Inspection Scope

During the review period, the NRC conducted independent inspections of licensee permitted facilities to assess the adequacy of their radiation safety programs and compliance with the NRC regulations and the MML.

6.2 Observations and Findings

During the period from April 2013 through October 2015, the NRC staff inspected 12 permittee locations. The NRC inspections focused on programs that the NRC had not inspected since the MML was issued that included remote locations in Guam and other remote locations that were lower safety significant permittees, and for specific permittees that posed higher health, safety, and security risks.

The list of independent NRC inspections is included in Appendix B.

6.3 Conclusion

The inspection team concluded that permittee activities were conducted in a manner that protected the health and safety of the licensee staff and the public and maintained the physical security and control of radioactive materials under the USAF RIC's control.

7 Status and Technical Quality of Materials Permitting Program

7.1 Inspection Scope

The NRC inspection team assessed the status and technical quality of the permitting process by reviewing a total of 16 permitting actions completed by the USAF RIC AOs. The permitting actions were evaluated to ensure that applicable regulations and guidance documents were being used by RIC AOs. This evaluation included permit conditions, adherence to sealed source and device registrations, appropriate training and experience authorizations, adequacy of facilities and equipment, use of operating and emergency procedures for the radionuclides and quantities used, adequacy of decommissioning financial assurance, adequacy of the use of official use only markings for those permits requiring it, implementation of security requirements, and consideration of enforcement history during permit renewals. The permitting actions reviewed were

also evaluated for completeness, consistency, timeliness, and adherence to good health physics practices. The permitting actions were also reviewed for retention of documents required to support the action being requested

7.2 Observations

The RIC maintained oversight for 86 permits, significantly reduced since the last biennial inspection in calendar 2013, as a result of the authorization of exempt distribution activities to the MML. In 2013 the RIC maintained oversight for 107 permittees. The RIC staff processed over 230 permit actions during the review period. The RIC has established a self-imposed goal to process template actions within 30 days and non-template actions within 60 days from receipt.

The 16 permitting casework reviewed by the inspection team included three news, six renewals and one pending including decommissioning, three amendments and one pending, and two terminations that covered a variety of the types of uses of permitted material. The NRC inspection team made the following observations by means of record review and interviews with the RIC AOs in addition to the removal and disposal of the Radioisotope Thermal Generators (RTGs) in Alaska, known licensing actions including responses to 2 technical assistance requests, and a letter of understanding (LOU) between the NRC and the United States Air Force among others:

- a. Ten Radioisotope Thermal Generators (RTGs) were removed and transported from Burnt Mountain Seismic Array Observatory, located in Alaska, to a disposal site at U.S. Department of Energy's National Nuclear Security Site (NNSS) in Nevada in accordance with 10 CFR 37.77 on July 28, 2015. An NRC inspector conducted an on-site visit on August 19, 2015, to NNSS Nevada site to confirm final disposal of the 10 RTGs. At the time of the biennial inspection, the permit had not been terminated.
- b. On July 22, 2015, the NRC sent an acknowledgement letter to the RIC allowing them to redistribute and transfer generally licensed devices within the United States Air Force (USAF), that is to be performed in accordance with the requirements of 10 CFR 31.5, specifically 10 CFR 31.5(c)(9), provided the general licensed device remains in use at the same location. On August 7, 2015, the RIC submitted a request for clarification on what the word "location" officially means. This request is pending at this time.
- c. On July 22, 2015, amendment number 25 to NRC License number 42-23539-01AF was issued granting the USAF MML to use (AN/AAQ-33) SNIPER/(AN/AAQ-14) LANTIRN avionics Pods and Electro-Optical Targeting System (EOTS) containing americium-241 as exempt devices. In response to the licensee's request additional information was requested by the Office of Nuclear Materials Safety and Safeguards before authorization could be granted including the Astro-Inertial Navigation Set (AINS) device. The USAF RIC has not, as of the date of this inspections, submitted the additional information as requested but has indicated to the NRC they plan to provide the information at a later date.

- d. The long awaited Letter of Understandings (LOU) between the USAF and the NRC was signed by Major Daniel A. Shaw, Chief, Radiation Health, Chief, RIC Secretariat on August 1, 2014, and signed by Jack E. Whitten, Chief, Nuclear Materials Safety Branch B, Division of Nuclear Materials Safety, Region IV on September 19, 2014. The LOU includes the following sections: Administrative, Environmental, Permitting, Inspection, Allegations, Enforcement, Investigations, Decommissioning, and Procedures.
- e. The inspection team noted that three permits are under 10 CFR Part 37 when the regulation became effective March 19, 2014 and was no longer under the NRC's Increased Controls Order EA 05-090.
- f. The inspection team noted that the RIC AOs have implemented an update of the physical inventory permit condition to require a physical photo inventory (date, month, and year stamped) every 6 months to account for all sources received and possessed under the permit.
- g. The RIC continues to use NRC Regulatory Issue Summary 2005-31, "Control of Security- Related Sensitive Unclassified Non-Safeguards Information Handled by Individuals, Firms, and Entities Subject to NRC Regulations of the Use of Source, Byproduct, and Special Nuclear Material," as guidance for reviewing permitting actions to determine if "Official Use Only" markings are needed on a permit.
- h. The RIC continues to use the following process to determine if a permit applicant is a known entity: After a new permit application is received, the RIC contacts the installation (RSO), usually a Bioenvironmental Engineer (BEE), and requests the installation RSO to validate that the proposed requested use is legitimate. The Installation RSO is also asked to communicate to the RIC any objections for the types and amounts of radioactive material being requested by the applicant.
- i. The USAF AFI 40-201 and the LOU requires the RIC to submit a decommissioning plan (DP) [for decommissioning groups 3 or above] to the NRC for review and approval. Currently the NRC is addressing a DP request by the RIC Secretariat that will result in the issue of a Safety Evaluation Report for Hill AFB DP.
- j. The inspection team identified 1 minor technical inconsistency out of 16 permitting actions that were reviewed. The inconsistency involved the possession limit for a portable gauge permittee. The permittee was authorized for four sealed sources. However the total possession limit on the permit only allowed enough activity for two. This minor inconsistency was communicated to the RIC staff for review. The technical issue was resolved during the inspection. Following a discussion about this minor inconsistency, the permit was immediately corrected and a corrected copy issued to the permittee. This technical inconsistency did not affect health and safety.

The inspection team determined that the permitting actions were thorough, complete, of good quality, and properly addressed health, safety, environmental, and security issues. The files generally contained appropriate documentation to support the permitting action. The AOs followed the NRC NUREG-1556 series guidance documents, NRC regulations, regulatory issue summaries, and regulatory guides during their review process.

The list of permitting casework reviewed is included in Appendix C.

7.3 Conclusion

The team identified one minor technical inconsistency out of 16 permitting actions that were reviewed. The inconsistency involved the possession limit for a portable gauge permittee. The permittee was authorized for four sealed sources. However the total possession limit on the permit only allowed enough activity for two portable gauges. This inconsistency was communicated to the RIC staff for review and resolution. Following a discussion about this minor inconsistency, the permit was immediately corrected and a corrected copy issued to the permittee. This minor inconsistency did not affect health and safety but identified a need for the RIC to perform self-assessments on permitting actions beyond the initial peer review.

The inspection team concluded that the RIC staff processed permitting actions in a manner that was consistent with NRC licensing policies, procedures, and guidance. The RIC has implemented a comprehensive quality control process to allow correction of administrative and technical inconsistencies before permits are issued. In addition, based on the self-assessment audits, the RIC has updated the physical inventory permit condition and the medical permit template.

8 Allegation and Incident Handling Programs

8.1 Inspection Scope

The inspection team reviewed the licensee's program for handling allegations and responding to incidents. This included a determination of the applicability of NRC reporting requirements, the effectiveness of the licensee in handling allegations and responding to incidents, and the status of any open allegations. In evaluating this program, the team utilized the MML's responses to the questionnaire and interviews with licensee staff.

8.2 Observations and Findings

The inspection team determined that the licensee received one request for information from the NRC and one congressional inquiry during the review period. The team reviewed the licensee's handling of the request/inquiry and determined that their process was in accordance with the licensee's procedures and the terms and conditions of the MML.

The team reviewed the AFI 40-201 and determined that the licensee processed allegations in accordance with the terms and conditions of the MML. The team determined that the licensee had conducted annual allegation training for its staff utilizing the training disk provided by the NRC.

The licensee reported seven incidents involving radioactive material during the review period. The licensee reviewed the permittee actions in response to the incidents that resulted in prompt and effective corrective actions. The NRC's Nuclear Materials Event Database (NMED) and License Event Reports (LERs) database were also reviewed for completeness.

The following LERs were reviewed and closed during this inspection:

- a. LER 2013-4-24-13: NMED#130511: JB Andrews AFB, DC – Improper GL device transfer.
- b. LER 2014-4-5-14: NMED#140315: JB McGuire-Dix, Lakehurst, NJ – GL device shipped for disposal without the source. Source not found.
- c. LER 2015-7-15-15: NMED#150410: Wright Patterson AFB, OH – Sources not removed before disposal and not found.

The team determined that there were no incidents identified during the inspection that impacted public health and safety or the environment during the review period.

8.3 Conclusion

The inspection team concluded that the licensee's incident and allegation handling programs were conducted in accordance with the conditions of the license and regulatory requirements.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Colonel Cunningham, USAF RIC Chair
Colonel Phillips, Associate Chief, Bioenvironmental
Colonel Duncan Hughes, Chair, AF-RSC, AFMSA/SG3P
Lt. Colonel Cagle, Chief, Radiation Programs, USAF RIC Secretariat
Captain Lopez, Deputy Chief, RIC Secretariat
Ramachandra K. Bhat, PhD., RIC Staff
Craig Refosco, RIC Staff

INSPECTION PROCEDURES USED

IP 87129, "Master Materials Program"

ITEMS OPENED, CLOSED, OR DISCUSSED

Opened

None.

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AFB	Air Force Base
AFI	Air Force Instruction
AFIA	Air Force Inspection Agency
AFIA/IG	Air Force Inspection Agency/Inspector General
AFMSA	Air Force Medical Support Agency
AFMS	Air Force Medical Support
AOs	Action Officers
BEE	Bioenvironmental Engineer
CFR	<i>Code of Federal Regulations</i>
Col	Colonel
CY	Calendar Year
DP	Decommissioning Plan
DVA	Department of Veterans Affairs
EPA	Environmental Protection Agency

LIST OF ACRONYMS USED (continued)

IMC	Inspection Manual Chapter
LER	Licensee Event Report
LOU	Letter of Understanding
Lt Col	Lieutenant Colonel
MML	Master Materials License
NMED	Nuclear Materials Event Database
NRC	Nuclear Regulatory Commission
NSTS	National Source Tracking System
OGC	Office of General Counsel
Order	Increased Controls Order
RAMMIS	Radioactive Materials Management Information System
RIC	Radioisotope Committee
RICS	Radioisotope Committee Secretariat
RSO	Radiation Safety Officer
SOP	Standard Operating Procedure
USAF	United States Air Force

APPENDIX A

INSPECTION CASEWORK REVIEWS

File No.: 1
Permittee: US Air Force Academy
Permit Type: Academic Type A Broad Scope
Permit No.: CA-12629
Date Inspected: 4/17/14

File No.: 2
Permittee: Elmendorf AFB, AK
Permit Type: Nuclear Medicine Written Directive (WD) required
Permit No.: AK-01810
Date Inspected: 2/6/14

File No.: 3
Permittee: Fort Indiantown, PA
Permit Type: Portable Gauge
Permit No.: PA-30282
Date Inspected: 11/7/13

File No.: 4
Permittee: Elgin AFB, FL
Permit Type: Nuclear Medicine No Written Directive required
Permit No.: FL-17214
Date Inspected: 5/26/14

File No.: 5
Permittee: Kirtland AFB, NM
Permit Type: Irradiator
Comment: This was a safety inspection.
Permit No.: NM-30470
Date Inspected: 1/22/14

File No.: 6
Permittee: Kirtland AFB, NM
Permit Type: Irradiator
Comment: This was a security inspection.
Permit No.: NM-30470
Date Inspected: 1/23/14

File No.: 7
Permittee: Hill AFB, UT
Permit Type: Irradiator
Permit No.: UT-00696
Date Inspected: 10/7/15

File No.: 8
Permittee: Kirtland AFB
Permit Type: Limited Scope R&D
Permit No.: NM-00677
Date Inspected: 5/15/13

File No.: 9
Permittee: McGuire AFB, NJ
Permit Type: Fixed Gauge
Permit No.: NJ-00498
Date Inspected: 10/16 and 17, 2014

Comment: This was a six month follow-up inspection, post escalated enforcement.

File No.: 10
Permittee: Wright Patterson AFB, OH
Permit Type: Limited Scope R&D

Permit No.: OH-30154
Date Inspected: 4/9/15

File No.: 11
Permittee: Wright Patterson AFB, OH
Permit Type: Nuclear Medicine WD

Permit No.: OH-04682
Date Inspected: 4/7/15

File No.: 12
Permittee: Wright Patterson AFB, OH
Permit Type: Service Provider

Permit No.: OH-00563
Date Inspected: 4/8/15

File No.: 13
Permittee: Kirtland AFB, OH
Permit Type: Limited Scope Measuring Systems

Permit No.: NM-00610
Dates Inspected: 2/10/15

File No.: 14
Permittee: Wright Patterson AFB, OH
Permit Type: Limited Scope R&D

Permit No.: OH-30158
Date Inspected: 4/6

APPENDIX B

LIST OF INDEPENDENT NRC INSPECTIONS AND INSPECTOR ACCOMPANIMENTS

Independent Inspections:

Kirtland AFB, New Mexico
Permit Type: Calibration
Permit No. NM-00610-00/00
NRC Inspector: M. Hammond

Kirtland AFB, New Mexico
Permit Type: Calibration
Permit No. NM-00677-00/00
NRC Inspector: M. Hammond

Kirtland AFB, New Mexico
Permit Type: Decommissioning
Permit No. NM-00548-00/01
NRC Inspector: M. Hammond

Kirtland AFB, New Mexico
Permit Type: Irradiator
Permit No. NM-30470-02/06
NRC Inspector: M. Hammond

Kirtland AFB, New Mexico
Permit Type: Source and Byproduct Materials
Permit No. NM-00750-00/00
NRC Inspector: M. Hammond

Hill AFB, Utah
Permit Type: DU Munitions
Permit No. UT-30046-02/03
NRC Inspector: R. Torres

Hill AFB Utah
Permit Type: Irradiator
Permit No. UT-00696-01/00
NRC Inspector: R. Torres

Hill AFB Utah
Permit Type: Static Eliminator (SNIPER)
Permit No. UT-00710-00/02
NRC Inspector: R. Torres

Wright-Patterson AFB, Ohio
Permit Type: Type A Broadscope (Waste/Recycling)
Permit No. OH-00472-02/06
NRC Inspector: L. Hanson

Wright-Patterson AFB, Ohio
Permit Type: Nuclear Medicine
Permit No. OH-04682-03/08
NRC Inspector: L. Hanson

Andersen AFB, Guam
Permit Type: Moisture Density Gauge (Troxler)
Permit No. GU-00300-00/01
NRC Inspector: M. Simmons

Keesler AFB, Mississippi –
Permit Type: Nuclear Medicine (Type A Medical Broadscope)
Permit No. MS-01002-03/00
NRC Inspector: M. Hammond

APPENDIX C

PERMITTING CASEWORK REVIEW

File No.: 1 Permittee: Joint Base McGuire-Dix-Lakehurst, NJ Type of Action: Amendment Permit Type: Cargo Vehicle Inspection System	Permit No.: NJ-00498-00 Amendment: 1 Permit Reviewer: DS
File No.: 2 Permittee: Joint Base McGuire-Dix-Lakehurst, NJ Type of Action: Renewal Permit Type: Cargo Vehicle Inspection System	Permit No.: NJ-00498-01 Amendment: 0 Permit Reviewer: CR
File No.: 3 Permittee: Nellis AFB, NV Type of Action: Amendment Permit Type: Medical Institution – WD Required	Permit No.: NV-0033-03/04 Amendment: 4 Permit Reviewer: PL
File No.: 4 Permittee: Lackland AFB, TX Type of Action: Amendment Permit Type: Reference source efficiency and calibration	Permit No.: TX-00670-00/07 Amendment: 7 Permit Reviewer: PL
File No.: 5 Permittee: Virginia Beach AFB, VA Type of Action: Pending Amendment Permit Type: Portable Gauge	Permit No.: VA-30357-04/03 Amendment: 4 Permit Reviewer: Not assigned yet
File No.: 6 Permittee: Eglin AFB, FL Type of Action: Pending Renewal Permit Type: Decommissioning	Permit No.: FL-00497-02/02 Amendment: Permit Reviewer: Not assigned yet
File No.: 7 Permittee: Wright-Patterson AFB, OH Type of Action: Termination Permit Type: Source Material	Permit No.: OH-00413-02/01 Amendment: 2 Permit Reviewer: EK
File No.: 8 Permittee: Columbus AFB, MS Type of Action: Termination Permit Type: X-Ray Fluorescence Analyzer	Permit No.: MS-00302-03/02 Amendment: 2 Permit Reviewer: CR
File No.: 9 Permittee: Fresno AFB, CA Type of Action: New Permit Type: X-ray Fluorescence	Permit No.: CA-00770-00 Amendment: N/A Permit Reviewer: CR

File No.: 10
Permittee: Eglin AFB, FL
Type of Action: New
Permit Type: DU Rounds Storage

Permit No.: FL-00781-00
Amendment: N/A
Permit Reviewer: CR

File No.: 11
Permittee: Eglin AFB, FL
04/03
Type of Action: Renewal
Permit Type: Medical

Permit No.: FL-17214-
Amendment: 0
Permit Reviewer: CR

File No.: 12
Permittee: Keesler AFB, MS
Type of Action: Renewal
Permit Type: Medical Institution – No WD Required

Permit No.: MS-01001-04
Amendment: 0
Permit Reviewer: EK

File No.: 13
Permittee: Travis AFB, CA
Type of Action: Renewal
Permit Type: Medical

Permit No.: CA-07840-04
Amendment: 0
Permit Reviewer: PL

File No.: 14
Permittee: NAS JRB, LA ANG, New Orleans, LA
Type of Action: New
Permit Type: SNIPER Pod

Permit No.: LA-00775-00
Amendment: N/A
Permit Reviewer: CR

File No.: 15
Permittee: Kirtland AFB, NM
Type of Action: Renewal
Permit Type: Decommissioning
Comment:

Permit No.: NM-00750-00
Amendment: N/A
Permit Reviewer: EK

313 was not signed by a certifying officer. Corrective Action: Dr. Bhat will review records and possibly contact the permittee to submit a signed copy.

File No.: 16
Permittee: Wright-Patterson, OH
Type of Action: Renewal
Permit Type: Medical Institution – WD required

Permit No.: OH-00468-04
Amendment: N/A
Permit Reviewer: EK