



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

March 11, 2019

Rebecca Gillis, Director  
Division of Public Health Protection and Safety  
Cabinet for Health and Family Services  
275 East Main Street, HS1C-A  
Frankfort, KY 40621-0001

Dear Ms. Gillis:

A periodic meeting with your staff was held on September 25, 2018. The purpose of this meeting was to review and discuss the status of the Kentucky Agreement State Program (the Program). The U.S. Nuclear Regulatory Commission (NRC) was represented by Joseph Nick, Deputy Director, Division of Nuclear Materials Safety, U.S. NRC Region I and me. I have completed and enclosed a general meeting summary for your records.

Through our Integrated Materials Performance Evaluation Program (IMPEP), the NRC maintains oversight of all Agreement State programs and the NRC's own radioactive materials programs. The NRC conducts periodic reviews of Agreement States and the NRC to ensure adequate protection of public health and safety and compatibility. Typically, when a performance weakness is identified during an IMPEP review, the root cause of the weakness relates to the program's staffing level or to the experience of the program's staff. Experience from IMPEP reviews has demonstrated that the maintenance and retention of qualified, motivated, and competent staff is one of, if not, the most important aspects of a successful program. Many Agreement State Programs experience difficulty maintaining an adequate number of qualified staff for a variety of reasons. Nonetheless, with the increased focus on the safety and security of radioactive materials, having an adequate number of qualified staff has become even more critical to the maintenance of a healthy program.

As noted in the enclosed meeting summary, during the periodic meeting we identified significant staff turnover in the Program that has taken place over the last two years. The large turnover of qualified staff and management has not yet hindered the Program's efforts in performing timely inspections and completing licensing actions however if this trend continues it could impact those areas in the future. It is important to address the staffing vacancies in the Program to ensure the long-term health and viability of the Program.

Your support in helping to ensure that the Program has the necessary resources and support to manage an effective program is crucial. I assure you that the NRC supports the objectives of the Program and will continue to work closely with your program to accomplish our mutual objectives of protecting public health and safety. We appreciate your commitment to this effort.

If you feel that our conclusions do not accurately summarize the meeting discussion, or have any additional remarks about the meeting in general, please contact me at (610) 337-5214 or via e-mail at [Monica.Ford@nrc.gov](mailto:Monica.Ford@nrc.gov) to discuss your concerns.

Sincerely,

*/RA/*

Monica Lynn Ford  
Regional State Agreements Officer  
Division of Nuclear Materials Safety  
U.S. NRC Region I

Enclosure:  
Periodic Meeting Summary for Kentucky

cc w/encl.: Matt McKinley, Administrator  
Radiation Health Program

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**SUNSI Review Complete: MLF (Reviewer's Initials)**

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
PERIODIC MEETING WITH THE COMMONWEALTH OF KENTUCKY  
TYPE OF OVERSIGHT: NONE

September 25, 2018

Enclosure

## PERIODIC MEETING PARTICIPANTS

### **NRC**

- Joseph Nick: Deputy Director, Division of Nuclear Materials Safety, NRC Region I
- Monica Ford: State Agreements Officer, NRC Region I

### **Commonwealth of Kentucky**

- Matthew McKinley: Administrator, Radiation Health Program
- Adelbert Potter: Supervisor, Radiation Health Branch

## Kentucky Periodic Meeting Summary

### 1.0 INTRODUCTION

This report presents the results of the periodic meeting held between the U.S. Nuclear Regulatory Commission (NRC) and the Commonwealth of Kentucky. The meeting was held on September 25, 2018. A list of meeting participants can be found in Appendix A. The meeting was conducted in accordance with NMSS Procedure SA-116 "Periodic Meetings between IMPEP Reviews," dated June 3, 2009.

The Kentucky Agreement State Program is administered by the Radiation Health Branch, which is located within the Department for Public Health. The Department for Public Health is part of the Commonwealth of Kentucky's Cabinet for Health and Family Services. At the time of the meeting, the Kentucky Agreement State Program regulated approximately 380 specific licenses authorizing possession and use of radioactive materials. The meeting 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 Commonwealth of Kentucky.

The Kentucky Agreement State Program last underwent an Integrated Materials Performance Evaluation Program (IMPEP) review in July 2016. A Management Review Board (MRB) meeting to discuss the outcome of the IMPEP review was held on October 20, 2016. Based on the findings presented, the MRB found the Kentucky Agreement State Program's performance satisfactory for the performance indicators: Technical Staffing and Training, Status of Materials Inspection Program, Technical Quality of Licensing, Technical Quality of Inspections, Technical Quality of Incidents and Allegations, Sealed Source and Device Evaluation Program, and Low-level Radioactive Waste Disposal Program and unsatisfactory for the performance indicator Compatibility Requirements. The MRB found the Kentucky Agreement State Program adequate to protect public health and safety and not compatible with the NRC's program. One recommendation was made under the indicator Low-level Radioactive Waste Disposal Program. The MRB directed that the next IMPEP review take place in approximately four years and that a periodic meeting take place in two years.

### 2.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review the NRC regional and Agreement State radioactive materials programs during an IMPEP review. 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.

#### 2.1 Technical Staffing and Training (2016 IMPEP review: Satisfactory)

The Kentucky Agreement State Program, at the time of the 2016 IMPEP review, was composed of seven technical staff members, a Supervisor, and a Program Administrator. At that time, the total effort allocated to support the Kentucky Agreement State Program was approximately 8.2 full-time equivalents (FTE). On October 1, 2018 a technical staff person transferred to the Radiation Producing Machines Section and that FTE was removed from the Radioactive Materials Section leaving the Radioactive Materials Section

## Kentucky Periodic Meeting Summary

allocated six technical staff positions, a Supervisor, and a Program Administrator comprising 7.2 FTE.

The Kentucky Agreement State Program has experienced a 56 percent turnover of staff and management. Since the 2016 IMPEP review, four technical staff have left. One transferred to the Radiation Producing Machines Section (10/2018), one retired (01/2018), and two resigned (12/2016 and 05/2018). The average time it takes to fill a vacant position is one year. One position was filled in January 2018, approximately one year after the staff person departed in December 2016 and one position was filled in October 2018. The Program Administrator stated that the remaining vacancy is expected to be filled within three to four months. Additionally, the Supervisor in place at the time of the last IMPEP review was promoted in December 2017 to a new position outside the Agreement State Program. The Supervisor position was posted and subsequently filled in April 2018. However, in October 2018 the newly hired Supervisor was moved to a technical staff position leaving the Supervisor position vacant again. The Kentucky Agreement State Program hopes to repost the Supervisor position in the near future and fill the vacancy by mid-2019.

The Kentucky Agreement State Program has a training and qualification manual compatible with the NRC's Inspection Manual Chapter (IMC) 1248. Staff going through the qualification process have been assigned a training and qualification journal to complete. Refresher training for qualified staff is being tracked to ensure staff are meeting the requirement of receiving 24 hours of training every 24 months.

### 2.2 Status of the Materials Inspection Program (2016 IMPEP review: Satisfactory)

The Kentucky Agreement State Program reported that it has conducted 2 of 89 Priority 1, 2, and 3 inspections overdue since the 2016 IMPEP review. Seven initial inspections have been completed since the 2016 IMPEP review, none of which were completed overdue. According to the Program Administrator, no Priority 1, 2, 3 or initial inspections were overdue at the time of the periodic meeting. The Kentucky Agreement State Program conducted 3 reciprocity inspections out of 14 candidate licensees in calendar year 2016 (21%), 3 reciprocity inspections out of 15 candidate licensees in calendar year 2017 (20%), and at the time of the periodic meeting 2018 3 reciprocity inspections out of 14 candidate licensees in calendar year 2018 (21%).

All inspection results are issued from the office and go out under the signature of the Program Administrator. The goal is to issue all inspection results within 30 days from the end of the inspection. About forty percent of inspection findings (72 out of 179) were issued greater than 30 days after the inspection date, however, the Kentucky Agreement State Program's current database tracks the length of time to issue inspection results from the start date of the inspection and not on the date of the exit. The Program Administrator stated that a new database is being developed and that the new database will track the number of days from the end of the inspection. The new database is expected to be in use by the end of 2019. Once the corrected method for calculating this metric is in use, the expectation is that this number will reduce significantly.

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### 2.3 Technical Quality of Inspections (2016 IMPEP review: Satisfactory)

The Kentucky Agreement State Program has inspection procedures equivalent to the NRC's Inspection Manual Chapter 2800 and the NRC's Inspection Procedures for specific modalities. Inspection results are not issued in the field even if it is a clear inspection, although preliminary findings are typically discussed with the licensee at the exit brief. All inspection reports get peer reviewed before being reviewed by the Supervisor and then being signed out by the Program Administrator.

Management's goal is to accompany all inspectors at least once each calendar year. All inspectors were accompanied in calendar years 2016, 2017, and 2018.

### 2.4 Technical Quality of Licensing Actions (2016 IMPEP review: Satisfactory)

At the time of the periodic meeting there were 28 pending licensing actions in house. The longest action has been in house since August 2017. All licensing actions undergo an initial review, then are peer reviewed, and finally are reviewed by the Supervisor before being signed by the Program Administrator and issued. Licenses go through an amendment in entirety which is similar to a renewal every five years. The Kentucky Agreement State Program is aware of the NRC's recent change to renewal requirements from every 10 years to every 15 years. The Program Administrator stated that there are no plans to change from their current requirement of every five years. The Program Administrator is aware of NRC's changes to the Pre-licensing Guidance and Risk Significant Radioactive Materials checklists. The Program Administrator stated that updates to both checklists would be made and implemented.

### 2.5 Technical Quality of Incident and Allegation Activities (2016 IMPEP review: Satisfactory)

There have been seven reportable events since the 2016 IMPEP review. All reportable events have been reported to the NRC accordingly and appropriate follow-up through NMED has occurred. All staff is aware of event reporting criteria. There has been one allegation received, which came from the NRC, since the 2016 IMPEP review. The Kentucky Agreement State Program is aware of the need to maintain an effective response to incidents and allegations. Incidents and allegations are quickly reviewed for their effect on public health and safety and staff is dispatched to perform onsite investigations when necessary.

## 3.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Compatibility Requirements, (2) Sealed Source and Device (SS&D) Evaluation Program, (3) Low-Level Radioactive Waste Disposal (LLRW) Program, and (4) Uranium Recovery (UR) Program. The NRC's Agreement with Kentucky does not relinquish regulatory authority for UR; therefore, only the non-common performance indicators Compatibility Requirements, SS&D, and LLRW apply.



## Kentucky Periodic Meeting Summary

### 3.1 Compatibility Requirements (2016 IMPEP review: Unsatisfactory)

No legislation affecting the Kentucky Agreement State Program was passed since the last IMPEP review. In the past adoption of compatible regulations has been a difficult process. The Kentucky Agreement State Program is in the process of adopting applicable sections of NRC's Title 10 Code of Federal Regulations (CFR) by reference. The hope is that the adoption by reference will be final before the end of the first quarter of calendar year 2019. At the time of the meeting 16 NRC regulation amendments were overdue for adoption. The Kentucky Agreement State regulations are subject to a sunset requirement as described in Commonwealth Statute KRS 13A.3102. Each Kentucky regulation expires seven years after its last effective date unless the process in KRS 13A.3104 is followed. The process described in KRS13A.3104 will not need to be completed for those regulations being amended to adopt NRC regulations by reference, since they will have just been amended. However, for any remaining regulations which have not been amended the Kentucky Agreement State Program will need review the regulation in its entirety for compliance and file a certification letter with the regulations compiler stating whether the regulation needs to be amended or remain in effect without amendment. The Kentucky Agreement State Program will need to complete the certification for any regulations passed before 2012 by July 1, 2019.

### 3.2 Sealed Source and Device Evaluation (SS&D) (2016 IMPEP review: Satisfactory)

The Kentucky Agreement State Program has one device manufacturer with 12 active SS&D registrations. No new, amendment, or inactivation requests have been received by the program since the last IMPEP review. The Kentucky Agreement State Program has two qualified SS&D reviewers. One additional staff person is working on becoming qualified to review SS&Ds.

### 3.3 Low-Level Radioactive Waste Disposal (LLRW) Program (2016 IMPEP review: Satisfactory)

The Kentucky Agreement State Program's LLRW program consists of oversight at one facility; Maxey Flats Disposal Site (MFDS), which is located in eastern Kentucky. MFDS operated as a commercial LLRW disposal facility from May 1963 through December 1977. The site was added to the National Priorities list in 1986, a record of decision was issued in 1991, and a consent decree was entered in 1995. The consent decree in Section I Part C states: "Pursuant to the requirements of the AEA, the Site is owned by the Commonwealth of Kentucky ("Commonwealth"). The Commonwealth, through the Cabinet for Human Resources, exercises regulatory authority over the Site pursuant to its status as an "Agreement State" under the AEA and the Kentucky Cabinet for Natural Resources and Environmental Protection is the current licensee of the Site."

The Kentucky Agreement State Program maintains a license for the MFDS which is issued to the Kentucky Energy and Environment Cabinet. The license authorizes possession and activities associated with maintenance related to the closed LLRW disposal site. On September 6, 2017 the only inspection performed since the last IMPEP review was completed. The results were issued on February 28, 2018. No licensing actions have been completed for this indicator.

## Kentucky Periodic Meeting Summary

### **Recommendation:**

To ensure openness and transparency regarding the Kentucky Agreement State Program's monitoring and oversight of the Maxey Flats Disposal Site (MFDS), the team recommends that the Kentucky Agreement State Program ensure timely and consistent issuance of licensing actions and inspection results for MFDS.

### **Status:**

Since the 2016 IMPEP review, the Kentucky Agreement State Program has performed one inspection at MFDS. That inspection was completed on September 6, 2017 and the inspection results were issued on February 28, 2018. This was the first inspection performed since the final closure of MFDS and the installation of the vegetative cap covering the site, surface water control features, and surface monuments to identify the location of buried waste. Being the first inspection after final closure required additional coordination on the inspection findings thus creating a delay in the issuance of the inspection findings. There have been no licensing actions for MFDS since the 2016 IMPEP review.

## 5.0 SUMMARY

The Kentucky Agreement State program has had significant staff turnover since the last IMPEP review. Four technical staff and the supervisor have left. There is one technical staff position vacant along with the supervisor position. The Kentucky Agreement State Program is working on filling both positions. Additionally, as of October 2018 the Kentucky Agreement State Program has permanently lost one FTE to the Radiation Producing Machines Section. This was primarily due to the decrease in the number of licenses maintained. Despite the significant staff turnover, no Priority 1, 2, 3, or initial inspections were completed overdue during the review period, reciprocity inspections are being completed, no backlog of licensing actions exists, and incidents and allegations are being followed-up on appropriately. The next IMPEP review of the Kentucky Agreement State Program should be held as scheduled in fiscal year 2020.