



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

March 31, 2017

MEMORANDUM TO: Chairman Svinicki  
Commissioner Baran  
Commissioner Burns

FROM: Marc L. Dapas, Director */RA/*  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: REPORT ON AGREEMENT STATES' AND U.S. NUCLEAR  
REGULATORY COMMISSION'S RADIOACTIVE MATERIALS  
PROGRAMS FOR CALENDAR YEAR 2016

Enclosed is the annual report to inform the Commission of the status of the Agreement State and U.S. Nuclear Regulatory Commission radioactive materials programs, as required by the June 30, 1997, Staff Requirements Memorandum on SECY-97-054, "Final Recommendations on Policy Statements and Implementing Procedures for: 'Statement of Principles and Policy for the Agreement State Programs' and 'Policy Statement on Adequacy and Compatibility of Agreement State Programs.'"

Enclosure:  
Report on Agreement States' and NRC's  
Radioactive Materials Programs

cc: SECY  
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# **ANNUAL REPORT FOR AGREEMENT STATE AND U.S. NUCLEAR REGULATORY COMMISSION RADIOACTIVE MATERIALS PROGRAMS**

## **CALENDAR YEAR 2016**

The U.S. Nuclear Regulatory Commission (NRC) utilizes the Integrated Materials Performance Evaluation Program (IMPEP) to periodically review the Agreement State and NRC radioactive materials programs to ensure that public health and safety are adequately maintained, and to ensure that Agreement State programs are compatible with the NRC's program. Through IMPEP reviews and Management Review Board (MRB) meetings, Agreement State and NRC radioactive materials programs are determined to be adequate to protect public health and safety if the administration of these programs provides reasonable assurance for the protection of public health and safety in regulating the use of radioactive material. Adequacy findings under IMPEP result in one of three conclusions: Adequate to Protect Public Health and Safety, Adequate but Needs Improvement, or Inadequate to Protect Public Health and Safety. In addition, Agreement State Programs are determined to be compatible with the NRC's regulatory program when Agreement State Programs do not create conflicts, duplications, gaps, or other conditions that jeopardize an orderly pattern in the regulation of agreement material (source, byproduct, and small quantities of special nuclear material as identified by Section 274b. of the Atomic Energy Act, as amended) on a nationwide basis. The IMPEP review compatibility findings for Agreement State Programs are either compatible or not compatible.

The frequency of IMPEP reviews for a particular program range from 1-5 years, based on the program's performance. All reviews are conducted in accordance with NRC Management Directive (MD) 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated February 26, 2004, and are conducted by teams of NRC and Agreement State staff members. The IMPEP teams use the established criteria in MD 5.6, guidance documents maintained by the Office of Nuclear Material Safety and Safeguards, and skills and knowledge acquired at a 2 1/2-day training program for IMPEP team members, to effectively assess each program's adequacy to maintain public health and safety and each Agreement State program's compatibility with the NRC's program. The NRC staff also conducts periodic meetings between IMPEP reviews to remain knowledgeable of the status of Agreement State and NRC programs.

Attachment 1 is the "Summary of Agreement States' Adequacy and Compatibility Statuses as of March 6, 2017." Thirty-four of the 37 Agreement State programs currently have an adequacy finding of "adequate to protect public health and safety." The remaining three states, Massachusetts, North Carolina, and Rhode Island, have adequacy findings of "adequate to protect public health and safety, but needs improvement." Regarding compatibility, 33 of the 37 Agreement State programs have a compatibility finding of "compatible with the NRC's program." The remaining four states, Colorado, Kentucky, New York, and Utah, have compatibility findings of "not compatible with the NRC's program." As shown in Attachment 2, all NRC radioactive materials programs currently have adequacy findings of "adequate to protect public health and safety."

The NRC takes a graded approach to addressing programmatic weaknesses in Agreement State programs. This includes monitoring, heightened oversight, probation, and suspension. These measures are described in detail in MD 5.6. In only one instance (Georgia 2013 probation), has an Agreement State program been placed on any measure other than

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monitoring or heightened oversight. Under the processes of monitoring and heightened oversight, the NRC staff works collaboratively with the Agreement States to ensure that they have a full understanding of the issues that need to be addressed, and implement appropriate corrective actions to progress toward re-establishing fully satisfactory program performance. In the least severe cases, Agreement State programs are placed on monitoring. For monitoring, Agreement State managers and staff must participate in quarterly calls with the NRC staff to discuss program status. Under heightened oversight, an Agreement State is required to develop a Program Improvement Plan (Plan) to address IMPEP findings and recommendations. The Plan is submitted to the NRC for approval prior to implementation. An Agreement State program on heightened oversight must also submit status reports prior to bimonthly conference calls conducted by the NRC staff with the Agreement State managers and staff to discuss program status. The decision to put an Agreement State program on either monitoring or heightened oversight is made by the MRB involved in reviewing the results of the associated IMPEP or periodic meeting. More stringent measures to address program weaknesses include placing the program on probation or suspending the 274b Agreement. These measures require approval from the Commission.

Currently, four Agreement State programs are on monitoring. Discussions of each Agreement State program on monitoring are provided in the corresponding sections below. A summary of recent activities related to the Agreement State programs on monitoring is presented in Attachment 3. Also provided below is discussion for the State of New Hampshire program that was recently removed from monitoring. In addition, discussions on Colorado, Kentucky, North Carolina, and Utah are included because these Agreement State programs are not subject to monitoring or heightened oversight, but have findings of either “not compatible” or “adequate to protect public health and safety, but needs improvement.”

## **AGREEMENT STATES ON MONITORING**

### **Georgia:**

The Georgia Agreement State program was removed from heightened oversight and placed on monitoring following its May 2016 IMPEP review and associated August 2016 MRB meeting. The Georgia program was found to be adequate to protect public health and safety, and compatible with the NRC’s program. The MRB acknowledged the performance improvements the Georgia program has made since 2012. As such, the MRB determined that the period of heightened oversight should be discontinued and a period of monitoring initiated until such time as the Georgia Agreement State program has demonstrated a sustained period of satisfactory performance in the areas of staffing, inspection, and licensing. The MRB directed that a periodic meeting with the Georgia program be held in May 2017, with a second meeting approximately 18 months thereafter. The MRB directed that the periodic meetings should include a focused discussion of the program’s actions to address the five open recommendations issued in the areas of staffing, inspection, and licensing. The next routine IMPEP review will be in 2020.

### **Massachusetts:**

The Massachusetts Agreement State program was placed on monitoring following its July 2014 IMPEP review and associated October 2014 MRB meeting. The Massachusetts program was found to be adequate to protect public health and safety, but needs improvement, and compatible with the NRC’s program. The IMPEP review team observed weaknesses in the

technical quality of the program's licensing and inspection activities. The NRC staff has conducted quarterly monitoring calls with the Massachusetts program staff and managers and held a periodic meeting with them in July 2015. Following the July 2015 periodic meeting, the MRB directed the NRC staff to continue with monitoring and schedule the next periodic meeting and IMPEP review as planned, in March 2017 and July 2018, respectively.

**New York:**

The New York Agreement State program was removed from heightened oversight and placed on monitoring following its March 2014 IMPEP review and associated August 2014 MRB meeting. The IMPEP review team found that the program had corrected a number of performance weaknesses; however, the IMPEP review team also found that while the program made progress in addressing some overdue regulations, timely adoption of regulations remained an issue. The New York program was found to be adequate to protect public health and safety, but not compatible with the NRC's program. The MRB directed the NRC staff to continue with monitoring of the New York program to discuss regulation status as well as other open recommendations in the areas of staffing and licensing. The NRC staff conducted quarterly monitoring calls and held a periodic meeting in May 2016. Following the May 2016 periodic meeting, the MRB directed the NRC staff to continue with monitoring and schedule the next IMPEP review as planned, in March 2018.

**Rhode Island:**

The Rhode Island Agreement State program remained on monitoring following its March 2016 IMPEP review and associated June 2016 MRB meeting. The Rhode Island program was found to be adequate to protect public health and safety, but needs improvement, and compatible with the NRC's program. The review team observed performance weaknesses in technical staffing levels and overdue inspections. Poor inspection tracking and staff vacancies were the main contributors to the overdue inspections. The MRB directed that a periodic meeting be held with the Rhode Island program in March 2017 with a second meeting approximately 18 months thereafter. The MRB directed that the periodic meetings should include a focused discussion of Rhode Island's actions taken to address the open recommendations. The next routine IMPEP review is scheduled to be in 2020.

**AGREEMENT STATE RECENTLY REMOVED FROM MONITORING**

**New Hampshire:**

The New Hampshire Agreement State program was placed on monitoring following its October 2012 IMPEP review and associated December 2012 MRB meeting. The New Hampshire program was found to be adequate to protect public health and safety, but not compatible with the NRC's program due to the large number of overdue regulations. Based on the program's October 2016 IMPEP review and associated January 2017 MRB meeting, the finding for the compatibility requirements indicator was upgraded from unsatisfactory to satisfactory, due to New Hampshire's adoption of all previously overdue regulations. As a result, the New Hampshire program was found to be adequate to protect public health and safety, and compatible with the NRC's program. Due to the progress the New Hampshire program made in regulation adoption since the 2012 IMPEP review, the January 2017 MRB directed that the period of monitoring be discontinued.

## **AGREEMENT STATES EITHER NOT COMPATIBLE OR ADEQUATE BUT NEEDS IMPROVEMENT**

The Colorado, Kentucky, North Carolina, and Utah Agreement States have overall program findings of either “not compatible” or “adequate to protect public health and safety, but needs improvement;” however, these programs are not subject to monitoring or heightened oversight.

### **Colorado:**

The Colorado Agreement State program was found to be “not compatible” following its April 2014 IMPEP review and associated June 2014 MRB meeting due to a number of modifications to Colorado statutes that were not compatible with NRC requirements. The modifications were made by the State Legislature without concurrence by the Colorado Radiation Control Program. Shortly after the 2014 IMPEP review, Colorado program management provided a path forward to resolve the statutory compatibility issues. The MRB concluded that the path forward was reasonable, and therefore, the Colorado program did not warrant either monitoring or heightened oversight. Subsequently, Colorado has made several legislative and regulatory changes that successfully address the statutory compatibility issues identified in the 2014 IMPEP report. The next IMPEP review of the Colorado program is scheduled to be conducted in 2018.

### **Kentucky:**

The Kentucky Agreement State program was found to be “not compatible” with the NRC’s program following its July 2016 IMPEP review and associated October 2016 MRB meeting. This was due to Kentucky’s failure to adopt regulations, or other legally binding requirements, in a timely manner. At the time of the 2016 IMPEP review, Kentucky was developing its process to allow all NRC regulations to be adopted by reference. The MRB concluded that the path forward to resolve the untimely adoption of regulations was reasonable, and therefore, the Kentucky program did not warrant either monitoring or heightened oversight. The next IMPEP review with Kentucky is scheduled to be conducted in 2020.

### **North Carolina:**

The North Carolina Agreement State program was found to be “adequate to protect public health and safety, but needs improvement” following its March 2014 IMPEP review and associated June 2014 MRB meeting, due to performance issues involving technical staffing and training, overdue inspections, and sealed source and device evaluations. Following the 2014 IMPEP review, but prior to the MRB, the North Carolina program corrected many of the performance issues and had a plan in place to resolve the remaining issues. As a result, the MRB concluded that the program’s path forward was reasonable, and determined that the performance issues did not warrant either monitoring or heightened oversight of the program. The NRC staff conducted periodic meetings with the North Carolina program in 2015 and 2016. The next IMPEP review with North Carolina is scheduled to be conducted in April 2018.

### **Utah:**

The Utah Agreement State program was found to be “not compatible” with the NRC’s program following its July 2015 IMPEP review and associated October 2015 MRB meeting, due to revisions to its statutes addressing financial surety. Utah program management acknowledged the NRC’s concerns over the legislative changes and committed to work with the NRC to resolve the matter. The MRB determined that the statutory compatibility issues did not warrant

either monitoring or heightened oversight of the program, and directed that a followup IMPEP review be conducted in October 2017. Since the 2015 IMPEP review, the NRC staff reviewed and commented on Utah's proposed legislative changes that address the compatibility finding. Utah plans to submit the revised legislation to its 2017 General Assembly.

## **TRENDING ANALYSIS**

The NRC staff evaluated Calendar Year (CY) 2016 IMPEP review outcomes for trends in four areas: performance indicator results, adequacy and compatibility status, programs on monitoring or heightened oversight, and recommendations issued to address program weaknesses.

In CY 2016, there were nine IMPEP reviews. Collectively, 59 performance indicators were assessed during the CY 2016 IMPEP reviews: 53 performance indicators were found to be satisfactory and 6 were found to be less than satisfactory. The performance indicator outcomes are consistent with the overall results of IMPEP reviews in CY 2014 and CY 2015. In addition, the data shows the National Materials Program (NMP)<sup>1</sup> is performing above the IMPEP benchmark data<sup>2</sup> (1996–2012).

The CY 2016 IMPEP results indicate that 38 radioactive materials programs (34 Agreement States and 4 NRC programs (3 regions and headquarters Sealed Source and Device Program)) are adequate to protect public health and safety. Three materials programs are adequate to protect public health and safety, but need improvement. With respect to program adequacy, CY 2016 results indicate a positive trend relative to CY 2014 and CY 2015, where six and five programs, respectively, were found adequate to protect public health and safety, but need improvement. The CY 2016 IMPEP results indicate that 33 of 37 Agreement State programs were found to be compatible with the NRC's program. The compatibility status has remained the same in CY2014–2016 with four programs being found not compatible. Historically, Agreement State programs have been found "not compatible" when these programs failed to adopt regulation amendments in a timely manner. Currently, two of the four programs are "not compatible" due to changes in the States' statutes and legislation, and not due to overdue regulation amendments.

At the completion of CY 2016 IMPEP reviews, there were four Agreement State programs on monitoring and no programs on heightened oversight. This shows a positive trend of improved performance by the NMP from the CY 2014 results where six programs were on monitoring and one program was on heightened oversight.

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<sup>1</sup> The NMP is a term used to describe the broad collective effort within which both the NRC and the Agreement States function in carrying out their respective regulatory programs for radioactive material oversight. The mission of the NMP is to provide a coherent national system for the regulation of radioactive material with the goal of protecting public health and safety through compatible regulatory programs.

<sup>2</sup> In 2013, the NRC staff performed a retrospective analysis of IMPEP data from 1996–2012 and established a baseline score for performance. A maximum score of 5.0 equates to all indicators being found satisfactory. The baseline score is set at 4.6. Results for CY 2014, CY 2015, and CY 2016 are 4.7, 4.8, and 4.7, respectively.

Recommendations are made by IMPEP review teams for performance weaknesses to promote program improvement. In analyzing recommendations (that were issued based on MRB approval/endorsement), the NRC staff assesses the reasons the recommendations are issued along with the number of programs exhibiting the same performance weakness(es). In CY 2016, recommendations were issued to address specific performance weaknesses, including implementation of pre-licensing guidance, control of sensitive information, reciprocity, inspection procedures, training and qualification policy, incident and allegation handling procedures, overdue regulations, and overdue inspections. For three Agreement State programs, a recommendation was issued to promote and sustain program improvement with staff retention. Staff turnover not only impacted program performance with respect to the technical staffing and training IMPEP performance indicator, but it also impacted program performance in the areas of licensing and inspection activities. Staffing and budget difficulties are recurring challenges for a number of Agreement States. Sustaining a high level of performance when there is significant staff turnover is a challenge for radioactive materials programs. Historically, IMPEP review teams have issued recommendations concerning staff retention/staff vacancies. Aside from staff retention/turnover, there were no recurring themes among radioactive materials programs for the types of recommendations issued from CY 2014 through and including CY 2016.

The NRC staff uses the results of trending analysis to enhance the IMPEP program and improve communication within the NMP. The NRC staff presents its analysis of the IMPEP program to the Organization of Agreement States (OAS) at the annual OAS meeting.

## **CONCLUSION**

The IMPEP reviews are a useful tool to ensure that public health and safety are adequately maintained and that Agreement State programs are compatible with the NRC's program. Inclusion of the Agreement State staff in the IMPEP review process provides for a productive exchange of information. The NRC and the Agreement States both benefit from IMPEP's blending of State and Federal resources. The Agreement States have provided significant input to the IMPEP process, and are expected to continue to play an instrumental role, with respect to ensuring consistent implementation of a national materials program to protect the public health and safety and to prevent the malevolent use of radioactive materials while allowing for their beneficial uses.

### Attachments:

1. Summary of Agreement States' Adequacy and Compatibility Statuses
2. Summary of NRC Radioactive Materials Programs Adequacy Statuses
3. Heightened Oversight and Monitoring Status Chart

**SUMMARY OF AGREEMENT STATES' ADEQUACY AND COMPATIBILITY STATUSES**  
(As of March 6, 2017)

STATE	FISCAL YEAR OF REVIEW	ADEQUACY FINDING	COMPATIBILITY FINDING
Alabama	2015	adequate	compatible
Arizona	2016	adequate	compatible
Arkansas	2014	adequate	compatible
California	2016	adequate	compatible
Colorado	2014	adequate	<i>not compatible</i>
Florida	2015	adequate	compatible
Georgia	2016	adequate	compatible
Illinois	2013	adequate	compatible
Iowa	2012	adequate	compatible
Kansas	2014	adequate	compatible
Kentucky	2016	adequate	<i>not compatible</i>
Louisiana	2016	adequate	compatible
Maine	2015	adequate	compatible
Maryland	2016	adequate	compatible
Massachusetts	2014	<i>adequate, but needs improvement</i>	compatible
Minnesota	2017	adequate	compatible
Mississippi	2013	adequate	compatible
Nebraska	2016	adequate	compatible
Nevada	2013	adequate	compatible
New Hampshire	2017	adequate	compatible
New Jersey	2015	adequate	compatible
New Mexico	2013	adequate	compatible
New York	2014	adequate	<i>not compatible</i>
North Carolina	2014	<i>adequate, but needs improvement</i>	compatible
North Dakota	2015	adequate	compatible
Ohio	2014	adequate	compatible
Oklahoma	2014	adequate	compatible

STATE	FISCAL YEAR OF REVIEW	ADEQUACY FINDING	COMPATIBILITY FINDING
Oregon	2013	adequate	compatible
Pennsylvania	2014	adequate	compatible
Rhode Island	2016	<i>adequate, but needs improvement</i>	compatible
South Carolina	2012	adequate	compatible
Tennessee	2016	adequate	compatible
Texas	2014	adequate	compatible
Utah	2015	adequate	<i>not compatible</i>
Virginia	2015	adequate	compatible
Washington	2013	adequate	compatible
Wisconsin	2014	adequate	compatible

**SUMMARY OF NRC RADIOACTIVE MATERIALS PROGRAMS' ADEQUACY STATUSES**  
(As of March 6, 2017)

REGION	REVIEW YEAR (FY)	ADEQUACY FINDING
Headquarters Sealed Source and Device Program	2015	adequate
Region I	2015	adequate
Region III	2012	adequate
Region IV	2014	adequate

**HEIGHTENED OVERSIGHT AND MONITORING CHART**  
(As of March 6, 2017)

State	Last IMPEP Review	Last Contact	Next Contact	Action(s) Due
<i>MONITORING</i>				
Georgia	May 9–12, 2016	quarterly call 2/10/2017	periodic meeting 5/2017	<ol style="list-style-type: none"> <li>1. Quarterly calls</li> <li>2. Periodic meeting in May 2017</li> <li>3. Periodic meeting in November 2018</li> <li>4. IMPEP review in May 2020</li> </ol>
Massachusetts	July 28–August 1, 2014	quarterly call 12/6/2016	periodic meeting 3/8/2017	<ol style="list-style-type: none"> <li>1. Quarterly calls</li> <li>2. IMPEP review in July 2018</li> </ol>
New York	March 17–28, 2014	quarterly call 1/11/2017	quarterly call 4/2017	<ol style="list-style-type: none"> <li>1. Quarterly calls</li> <li>2. IMPEP review in March 2018</li> </ol>
Rhode Island	March 7–10, 2016	quarterly call 10/18/2016	periodic meeting 3/9/2017	<ol style="list-style-type: none"> <li>1. Quarterly calls</li> <li>2. Periodic meeting in March 2017</li> <li>3. Periodic meeting in September 2018</li> <li>4. IMPEP review in March 2020</li> </ol>