



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, IL 60532-4352

November 24, 2015

Mr. Joseph Klinger, Assistant Director  
Illinois Emergency Management Agency  
Division of Nuclear Safety  
2200 S. Dirksen Parkway  
Springfield, IL 62703

Dear Mr. Klinger:

A periodic meeting with you and your staff was held on November 10, 2015. The purpose of the meeting was to review and discuss the status of Illinois' Agreement State Program. The U.S. Nuclear Regulatory Commission (NRC) was represented by John Giessner, Matthew Learn and myself.

I have completed and enclosed a general meeting summary, including any specific actions that will be taken as a result of the meeting.

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 630-829-9661 or email to [James.Lynch@nrc.gov](mailto:James.Lynch@nrc.gov) to discuss your comments.

Sincerely,

*/RA/*

Jim Lynch  
State Agreements Officer  
Division of Nuclear Materials Safety

Enclosure:  
Illinois Periodic Meeting Summary

November 24, 2015

Mr. Joseph Klinger, Assistant Director  
Illinois Emergency Management Agency  
Division of Nuclear Safety  
1035 Outer Park Drive  
Springfield, IL 62704

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Distribution w/encl:  
John Giessner  
Matthew Learn

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AGREEMENT STATE PERIODIC MEETING SUMMARY WITH THE  
ILLINOIS EMERGENCY MANAGEMENT AGENCY

DATE OF MEETING: November 10, 2015

NRC Attendees	Illinois Attendees
John Giessner, Division Director	Joe Klinger, Assistant Director
Jim Lynch, Regional State Agreements Officer	Gibb Vinson, Head, Radioactive Materials Section
Matt Learn, Acting Regional State Agreements Officer	Kelly Horn, Head, Environmental Management Section
	Mary Burkhardt, Supervisor, Materials Licensing
	Daren Perrero, Supervisor, Inspection and Enforcement
	Sandi Kessinger, Supervisor, Materials Security

DISCUSSION:

James Joseph was appointed by Governor Bruce Rauner as Director of the Illinois Emergency Management Agency (IEMA) in January 2015. Joe Klinger remained as Assistant Director. Mr. Klinger is the State Liaison Officer and remains as the U.S. Nuclear Regulatory Commission's (NRC) main contact and responsible party for the radiation control program. Illinois has approximately 638 specific licensees.

The Agreement State Program is administered by the Bureau of Radiation Safety (the Bureau), within IEMA, led by Adnan Khayyat. Gibb Vinson is the Head of the Radioactive Materials Section. The Section consists of three programs: Materials Licensing, Inspection & Enforcement, and Materials Security. The inspection staff is mostly based out of the West Chicago regional office. Kelly Horn is the Head of the Environmental Management Section which works cooperatively with the Radioactive Materials Section.

The State's last Integrated Materials Performance Evaluation Program (IMPEP) review was conducted in July 2013. The review team found Illinois' performance to be satisfactory for all performance indicators reviewed. The review team made no recommendations. Accordingly, the review team recommended, and the Management Review Board agreed, that the Illinois Agreement State Program was adequate to protect public health and safety, and compatible with NRC's program.

Enclosure

### Program Strengths:

The experienced, competent supervisory and management staff is the most notable strength of the program. Many of the members have over 25 years of experience with the State. Program supervisors are very experienced and have maintained a strong radioactive materials program during a difficult budget period.

The Bureau provides excellent support to NRC and other Agreement States with their thorough evaluation of proposed regulations and procedures.

The Illinois orphan source program has been very successful, significantly reducing the number of unwanted, potentially dangerous, radioactive sources in the State.

### Program Weaknesses:

The State is without a budget for the current fiscal year. Illinois State budgetary difficulties have negatively affected the program. Vacancies in the inspection and licensing programs have not been filled, resulting in increased workloads for supervisors and staff personnel. Specifically, a small number of inspections have not been performed in accordance with the appropriate inspection frequency. Additionally, travel issues have resulted from the lack of a current budget, including delayed reimbursement for employee use of personal vehicles, and for hotel charges incurred during official travel within the State.

### Feedback on NRC's Program:

State managers indicated that they appreciated the good relationship and communication that they have with NRC Region III. They were also appreciative of NRC's funding for Agreement State training.

### Staffing and Training:

Staffing for the Agreement State program remains a challenge with significant budget difficulties facing the State. One licensing position and two inspection positions are currently vacant and are not being filled due to budget constraints. The Assistant Director stated that filling the positions is a priority for the Agency.

Many of the Bureau's lead technical, supervisory, and management staff are eligible to retire within the next several years, and many of the Bureau's junior technical staff have been recently hired within the last few years. This level of experience within the Bureau combined with State budgetary difficulties could lead to a significant knowledge gap if succession planning is not properly executed. The State is aware of this potential future issue and is taking actions to develop its junior technical staff.

### Program Reorganizations:

The Bureau of Environmental Radiation Safety was folded into the Bureau of Radiation Safety as part of a consolidation effort. Additionally, a staff member was assigned responsibility for coordination of reciprocity requests and for the tracking of general licensees. This individual reports to the Radioactive Materials Section Head.

#### Program Budget/Funding:

As mentioned above, the State does not have an approved budget for the current fiscal year. Agency officials are hopeful that the budget impasse will be resolved in the next couple of months. The Agreement State program receives approximately 88 percent of its budget from licensee fees. The fee-based funding level was increased from approximately 50 percent to its current level with a fee increase in March 2013.

#### Materials Inspection Program:

Illinois inspection frequencies are at least as frequent as found in NRC's Inspection Manual Chapter (IMC) 2800. According to program managers, seven inspections are currently overdue with respect to NRC priorities. These overdue inspections are due to staffing issues and the resources needed to respond to an unusual number of events that occurred in 2015. The program conducted extensive investigations for three significant medical events which resulted in Abnormal Occurrence (AO) notifications to Congress. A lost source event involving a missing well logging source required significant resources performing surveys of roads and coordination with local, State and Federal agencies.

New licensees are inspected within 12 months of license issuance, regardless of whether the licensee has received radioactive material. Reciprocity inspections are performed in accordance with the frequencies identified in NRC Manual Chapter 1220.

#### Materials Licensing Program:

No significant licensing backlogs exist; however, with the shortage of license reviewers, the State is prioritizing licensing actions with health, safety and security-related actions taking precedence. License terms were extended from 5 to 8 years in order to free up licensing resources for priority actions. An expedited license renewal program is being used for licensees whose programs do not have significant changes.

A due diligence review is performed for new licensees and new radioactive material users. This review is an extensive background check. Pre-licensing visits are performed for all applicants unless they already have an NRC or Agreement State license. Financial assurance obligations are reevaluated during amendments that may affect surety and as they approach expiration. Illinois is aware of the recent Government Accountability Office (GAO) investigation which inappropriately obtained a materials license from another Agreement State.

#### Regulations and Legislative Changes:

In September 2015, the State submitted draft versions of three regulation packages which were due for adoption regarding Part 37 implementation (RATS 2012-4, 2013-1, and 2015-1). The NRC provided several comments regarding the State's draft regulations. The State is incorporating changes to the final regulations to address the comments. They did, however, provide feedback to the NRC that while they have implemented the comments, they believe that their draft language was superior to that in the Part 37 regulations. The Regional State Agreements Officer (RSAO) passed

these comments to the office of Nuclear Material Safety and Safeguards (NMSS) for their consideration.

The State does not currently have any overdue regulations for adoption or open comments with the exception of those discussed above. The regulation promulgation process in Illinois takes approximately one year to complete.

#### Response to Incidents and Allegations:

The Bureau continues to be sensitive to notifications of incidents and allegations. Incidents are quickly reviewed for their effect on public health and safety. Twenty-eight NRC reportable incidents were reported since the last IMPEP review. Staff is dispatched to perform on-site investigations when necessary. All of the events were appropriately reported to the NRC, and were properly entered into, and updated, within the Nuclear Material Events Database (NMED). Very good communication with Region III was noted during event response. The program managers have placed emphasis on maintaining an effective response to incidents and allegations.

The Organization of Agreement States (OAS) proposed reactive inspection teams comprised of staff from both Agreement States and the NRC for event response was discussed. The RSAO indicated to the State that this issue is currently being discussed by OAS and NMSS. More information will be coming to the Agreement States in 2016.

The Bureau provided feedback for enhancements to the NRC's medical consultant program. An NRC medical consultant was retained to assist Illinois during recent medical event evaluations. The State was not satisfied with the quality or extent of the consultant's review. This matter was forwarded to the NMSS Medical Team to address during their reevaluation of the consultant program.

The NRC referred one allegation to Illinois since the last IMPEP review. The allegation is currently under review.

#### Significant Events and Generic Implications:

The Bureau identified three abnormal occurrences and investigated one significant source loss since the last IMPEP review.

In March 2014, a medical event occurred at Affiliated Oncologists. The patient was prescribed to receive a total dose of 34 Gy utilizing high dose rate (HDR) brachytherapy in 10 fractionated doses to the breast (treatment site). It was determined that the skin at the incision site for the catheter (wrong treatment site) received a dose of 100 Gy. The incident was included in the Fiscal Year 2015 AO report.

In October 2014, a medical event occurred at Presence Resurrection Medical Center. The patient was prescribed to receive a total dose of 34 Gy utilizing HDR brachytherapy in 10 fractionated doses to the breast (treatment site). It was determined that the skin at the incision site for the catheter (wrong treatment site) received a dose of 130 Gy. The incident was included in the Fiscal Year 2015 AO report.

In June 2015, a medical event occurred at the Riverside Medical Center. The patient was administered 1,302 MBq of yttrium-90 microspheres through the wrong infusion site, leading to an unintentional dose to the right kidney (wrong treatment site). The incident was included in the Fiscal Year 2015 AO report.

In October 2015, Wayne County Well Surveys reported a loss of a 111 GBq americium-241 well logging source. The licensee speculated that the source was lost either during transit to a well head or at the well head. The source has not yet been located. The State, coordinating with other agencies, performed extensive surveys of roadways in Illinois and Indiana during their investigation.

In each instance described above, the response performed by the State was comprehensive in its scope and aggressive in its response time.

Large, Complicated, or Unusual Authorizations for use of Radioactive Materials:

Illinois' significant decommissioning projects were discussed, including the West Chicago Environmental Response Trust (aka Kerr-McGee).

The West Chicago decommissioning project recently concluded contaminated soil removal. The factory site soil decommissioning is completed. Groundwater monitoring and remediation efforts will continue for several years. Some river restoration remains to be completed, but all source term was removed. The total decommissioning project cost is estimated to be \$1.2 billion over a 30-year span.

Sealed Sources and Devices:

IEMA has an active sealed sources and devices (SS&D) program which issues several amendments per year. No backlogs were noted.

CONCLUSION:

The Illinois Agreement State Program remains a very active, strong, stable program with excellent management support. Recent staffing changes have left the licensing and inspection program with three vacancies and put a strain on the entire program. The training level for staff members is on target. Illinois managers indicated that they will continue to support the IMPEP program and NRC/Agreement State working groups, to the extent practical.

NRC staff recommends that the next IMPEP review to be held, as currently scheduled, in 2018.