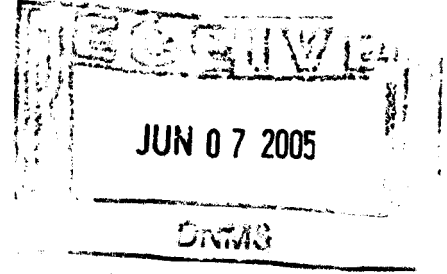


June 3, 2005



Ms. Vivian H. Campbell  
Regional State Agreements Officer  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, Texas 76011-4005

Dear Ms. Campbell:

The Agency has received your report regarding the April 4-8, 2005 Integrated Materials Performance Evaluation Program review of the Illinois Program. The Agency appreciates the positive comments made regarding the performance of our Licensing, Inspection, Incident/Allegation, Sealed Source and Device and Training programs. The Agency takes great pride in these programs and strives to exceed in these disciplines.

Illinois, however, is extremely disappointed with the "incompatibility" finding for regulations. Illinois has worked extremely hard to draft the regulations, and all were adopted or drafted and awaiting legal concurrence at the time of the review. These were available at the time of the review. In discussions with NRC staff prior to the audit, Illinois was under the impression that these new/draft regulations would be more than acceptable for a compatibility finding. These drafts could have been sent to State Programs (STP) several months before if we had known they could be reviewed in draft form for compatibility. STP apprised us of this the Monday after the IMPEP review. Illinois agrees with your assessment that there are no health and safety concerns that have not been addressed through licensing. In light of these circumstances, the Agency requests the compatibility indicator of unsatisfactory for this element be reconsidered.

A number of these regulations have long been adopted in Illinois. Some have been in effect since 1994. The Agency is not sure why these have not been approved by NRC during previous correspondence. The Agency sent a letter to NRC STP Deputy Director Fred Coombs and John Zabko asking for a resolution of this matter in 2000 and again in 2002 (as a fax, attachment 1). It is unfortunate that NRC failed to assist Illinois in resolving these rules at that time.

Ms. Vivian H. Campbell

Page 2

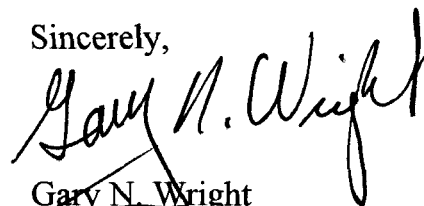
June 3, 2005

Finally, our primary rulemaking coordinator was transferred to another Bureau during the Agency reorganization. Her duties were assumed by the Head of the Radioactive Materials Section, who was subsequently deployed with the Navy to the Middle East. It is essential to note that these staff members (and others) have been heavily involved with the NRC, the Organization of Agreement States, and the IAEA on a number of working groups, including the National Materials Program Working Group, the National Orphaned Source working group, the IAEA working group for characterization of materials for safeguards, the NUREG 1566, Vol. 3 working group for sealed sources and devices, the Materials Program Working Group Pilot 4 for emerging medical technologies, and participation as the state representative at numerous MRB meetings, among others. This represents a significant FTE contribution by the State of Illinois. For example, our primary rulemaking coordinator contributed a total of over 0.75 FTE of her time over the years immediately preceding her transfer to a different Bureau.

Some of these same staff members also orchestrated the 274i agreement where Illinois was one of only a few states to enter into a voluntary agreement to cooperate with and support the NRC in performing security inspections. Many of the above projects were entered into at the exclusion of writing certain regulations because the Agency considered these issues to be of a greater health and safety concern. The implication is that rulemaking and other administrative issues are more important than actual health and safety issues in the regulated community. Human resources are limited in all states, including Illinois, and allocation of these resources will continue to be carefully re-evaluated.

We appreciate the opportunity to comment on this draft report. Please find the Agency's comments highlighted throughout the attached report (attachment 2). If you have any further questions, please feel free to contact Gibb Vinson, Acting Head of the Radioactive Materials Section, at (217) 785-9928.

Sincerely,



Gary N. Wright  
Assistant Director

GNW:bdc

Enclosures

cc: Director Burke

STATE OF ILLINOIS  
**DEPARTMENT OF NUCLEAR SAFETY**

1035 OUTER PARK DRIVE • SPRINGFIELD, ILLINOIS 62704  
 217-785-9900 • 217-782-6133 (TDD)

George H. Ryan  
 Governor

Thomas W. Ortziger  
 Director

September 26, 2000

Mr. Fred Combs  
 Deputy Director, Office of State and Tribal Programs  
 U.S. Nuclear Regulatory Commission  
 Mail Stop 3D23  
 Washington, DC 20555-0001

Dear Mr. Combs:

As indicated in our last letter to you regarding regulations and the Regulation Assessment Tracking System (RATS) Data Sheet, we have continued to compare the status of our regulations to the Illinois RATS sheet. Attached to this letter is a chart indicating what we believe to be the rule status to be for most of the RATS IDs on the Illinois sheet. We used the sheet last updated by NRC on August 21, 2000 as a basis for our review. With two exceptions, we limited our review to rules due prior to October 2000.

Please note that our chart only lists the RATS ID, indicates if the rule is Final or Proposed, and the effective date of the regulation. For items covered by other legally binding requirements, such as license conditions, there is no effective date listed. In some cases the information requested on the RATS sheet is very old (addressing rules from more than 5 years ago), and has been replaced by other more current regulations.

Please update the Illinois RATS Data Sheet as indicated on the attached chart. If you have any questions, please feel free to contact me at 217-785-9931 or via e-mail at [k\\_allen@idns.state.il.us](mailto:k_allen@idns.state.il.us).

Sincerely,

*Kathy Allen*

Kathy Allen  
 Senior Project Manager

Cc: Jim Lynch, Region III

Attachment

Post-it® Fax Note	7671	Date	1/03/02	# of pages	5
To	John Zabko	From	Kathy Allen		
Co./Dept.	NRC	Co.	IDNS		
Phone #		Phone #	217-785-9931		
Fax #	301-415-3502	Fax #			



Review of Illinois RATS Data Sheet

September 26, 2000

RATS ID	Proposed / Final	Effective Date	Comments
1991-1	N/A		It appears that Part 34 was amended in its entirety in 1997, therefore tracking this item is moot.
1991-2	N/A		It appears that Part 34 was amended in its entirety in 1997, therefore tracking this item is moot.
1991-4	F	01/01/1994	We believe that our 1994 amendments to Part 340 included these requirements.
1992-1	F (for part)	5/2/94 for misadministrations	Misadministrations are adequately addressed in Part 335. IDNS does not intend to adopt the QM rule.
1992-2	N/A		Not required.
1993-2	N/A		Equivalent requirements via licensing process.
1993-3	N/A		N/A - No LLRW site licensees.
1994-2	N/A		N/A since IL licensee is not disposing or impounding waste on-site. All material is being shipped off-site.
1995-1			Not addressed in our rules yet.
1995-2			Not addressed in our rules yet. IL rules are more restrictive.
1995-3	F	11/11/1996	Similar requirements for shipment of LLRW can be found in 32 Ill. Adm. Code 609.
1995-4	N/A		It appears that Part 34 was amended in its entirety in 1997, therefore tracking this item is moot.
1995-5	F	01/01/2000	Please change from P-Y to F
1995-6	F	06/01/2000	IDNS has equivalent rules in Part 326.
1995-7	F	05/02/1994	IDNS rules promulgated concurrently with NRC rules.
1996-1			Not addressed in our rules yet.
1997-1			Effluents reviewed by the inspectors.
1997-3	F - Part 20	01/01/2000	Part 20 equivalent definitions changed. Patient releases currently allowed by license condition.
1997-5	F	11/17/1998	Changes to Part 350 issued 11/17/98 as an emergency rule, final rule 2/25/99.
1997-6			Currently addressed on a case-by-case basis as licensees terminate.
1998-4	F	6/23/94 and 2/25/99	See Part 350.
1998-5	F (partial)	01/01/2000	See Part 310.
1999-2	F	06/01/2000	Equivalent reporting requirements in Part 330.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

May 5, 2005

William C. Burke, Director  
Illinois Emergency Management Agency  
110 East Adams Street  
Springfield, IL 62704

Dear Mr. Burke:

The Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the evaluation of Agreement State programs. Enclosed for your review is the draft IMPEP report that documents the results of the Agreement State review held in your Agency on April 4 - 8, 2005. I was the team leader for the Illinois review. The review team's preliminary findings were discussed with you on April 6, and with Mr. Gary Wright and your staff on the last day of the review. The review team's proposed recommendations are that the Illinois Agreement State program be found adequate to protect public health and safety, but not compatible with NRC's program. *The "not compatible" finding should clearly state that this finding is related only to the status of rulemaking.*

NRC conducts periodic reviews of Agreement State programs to ensure that public health and safety are adequately protected from the hazards associated with the use of radioactive materials and that Agreement State programs are compatible with NRC's program. The process, titled IMPEP, employs a team of NRC and Agreement State staff to assess both Agreement State and NRC Regional Office radioactive materials licensing and inspection programs. All reviews use common criteria in the assessment and place primary emphasis on performance. Three additional areas have been identified as non-common performance indicators and are also addressed in the assessment. The final determination of adequacy and compatibility of each Agreement State program, based on the review team's report, will be made by a Management Review Board (MRB) composed of NRC managers and an Agreement State program manager, who serves as a liaison to the MRB. *NRC did not look at the General Licensing (GL) Program. This has previously been reviewed in detail by other IMPEP teams. Illinois takes great pride in this program and believes it to be the premier GL program in the Nation. The Illinois GL database has been the model used by NRC and other states to track sources nationwide. The Agency would like comments about this program included in the report. Illinois would also like comments included about our participation in the 274i agreement either in the cover letter or in the good practices section of the report. The Agency understands that this agreement is not part of the IMPEP criteria. However, providing additional oversight for high-risk sources is certainly a "good practice." 274i is a major program that we have voluntarily committed to and deserve recognition for.*

In accordance with procedures for implementation of IMPEP, we are providing you with a copy of the draft team report for review prior to submitting the report to the MRB. We welcome your comments on the draft report. We request comments within four weeks from your receipt of this

letter. This schedule will permit the issuance of the final report in a timely manner that will be responsive to your needs.

The team will review the response, make any necessary changes to the report and issue it to the MRB as a proposed final report. Our preliminary scheduling places the Illinois MRB meeting in the week of June 19, 2005. We will coordinate with you to establish the date for the MRB review of the Illinois report and will provide invitational travel for you or your designee to attend.

NRC has video conferencing capability if it is more convenient for the State to participate through this medium. Please contact me if you desire to establish a video conference for the meeting.

If you have any questions regarding the enclosed report, please contact me at 817-860-8143. Thank you for your cooperation.

Sincerely,

*/RA/*

Vivian H. Campbell  
Regional State Agreements Officer  
Division of Nuclear Materials Safety

Enclosure: As stated

cc:  
Mr. Gary Wright, Assistant Director  
Illinois Emergency Management Agency

Mr. Paul Eastvold  
Bureau of Radiation Safety  
Illinois Emergency Management Agency

Distribution:

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DOCUMENT NAME: 2005 IL draft IMPEP.wpd

SISP Review Complete:

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OFFICE	DNMS/RIV	N					
NAME	VHC						
DATE	05/05/05						

William C. Burke

-4-

OFFICIAL RECORD COPY



INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
REVIEW OF ILLINOIS AGREEMENT STATE PROGRAM

April 4 - 8, 2005

**DRAFT REPORT**

U.S. Nuclear Regulatory Commission



## 1.0 INTRODUCTION

This report presents the results of the review of the Illinois Agreement State program. The review was conducted during the period of April 4-8, 2005, by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Georgia. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of a Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the February 26, 2004, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period March 9, 2001 to April 8, 2005, were discussed with Illinois management on April 8, 2005.

[A paragraph on the results of the Management Review Board (MRB) meeting will be included in the final report.]

In July 2003, the Illinois Department of Nuclear Safety (the Department) became a division of the Illinois Emergency Management Agency (the Agency). The Director for the Department was appointed the Assistant Director of the Agency and retained the management responsibility over activities that had been conducted by the Department. In March 2005, the Assistant Director became responsible for the five technical bureaus in the Agency: Bureau of Operations; Bureau of Disaster Assistance and Preparedness; Bureau of Nuclear Facility Safety; Bureau of Environmental Safety; and Bureau of Radiation Safety. The Illinois Agreement State program is administered by the Bureau of Radiation Safety (the Bureau), with support by other bureaus in the Agency, which is discussed in further detail later in the report. The Bureau has one field office located in West Chicago, Illinois.

Organization charts for the State of Illinois and the Agency are included as Appendix B. The Illinois Agreement program regulates approximately 742 specific licenses authorizing Agreement materials. The review focused on the program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Illinois.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the State on November 29, 2004. A copy of the official letter and questionnaire can be found on NRC's Agency wide Document Access and Management System (ADAMS) using the Accession Number ML043350221. The State provided a response to the questionnaire on March 16, 2005. A copy of the State's questionnaire response can be found in ADAMS using the Accession Number ML 051100389.

The review team's general approach for conduct of this review consisted of: (1) examination of Illinois' response to the questionnaire; (2) review of applicable Illinois' statutes and regulations; (3) analysis of quantitative information from the Bureau's licensing and inspection database; (4) technical evaluation of selected licensing and inspection actions; (5) field accompaniments of three Illinois inspectors; and (6) interviews with staff and management to answer questions or clarify issues. The team evaluated the information that it gathered against the IMPEP performance criteria for each common and applicable non-common performance indicator and made a preliminary assessment of the Illinois Agreement State program's performance.

Section 2 discusses the State's actions in response to the previous IMPEP review recommendation and the team's conclusions regarding the closure of the recommendation. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-common performance indicators, and Section 5 summarizes the review team's findings and recommendation. Recommendations made by the review team are comments that relate directly to program performance by the State. A response is requested from the State to all recommendations in the final report.

## 2.0 STATUS OF ITEMS IDENTIFIED IN THE PREVIOUS REVIEW

During the previous IMPEP review which concluded on March 9, 2001, one recommendation was made and the results transmitted to Mr. Thomas W. Ortziger, Director, Illinois Department of Nuclear Safety on June 6, 2001. The review team's evaluation of the current status of the recommendation is as follows:

1. The review team recommends that the State adopt the regulations, or other legally binding requirements, which are overdue for adoption. (Section 4.1.2 of the 2001 report)

Current Status: The review team evaluated the status of the actions that the State has taken to address this recommendation since the 2001 IMPEP review. The team acknowledges that the State has drafted rules to meet the requirements of a number of the overdue amendments and submitted them to the Bureau's legal staff for review. However, these draft rules have not yet been adopted as final rules by the State or sent to the NRC for review as required by STP procedure SA-201, *Review of State Regulatory Requirements*. The status of the regulations is discussed in further detail in Section 4.1 of this report. This recommendation remains open.

*This paragraph is not correct. A number of rules were adopted and final in Illinois prior to the review. In addition, all overdue rules have either been adopted or sent to NRC as drafts as of May 2, 2005. NRC needs to revise language in the report regarding "adopted" vs. "sent" to NRC. A number of rules have apparently been adopted since 1994 that NRC does not consider complete under the compatibility process.*

## 3.0 COMMON PERFORMANCE INDICATORS

IMPEP identifies five common performance indicators to be used in reviewing both NRC Regional and Agreement State programs. These indicators are: (1) Technical Staffing and Training; (2) Status of Materials Inspection Program; (3) Technical Quality of Inspections; (4) Technical Quality of Licensing Actions; and (5) Technical Quality of Incident and Allegation Activities.

### 3.1 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Bureau's turnover, as well as the technical qualifications and training histories of the staff. To evaluate these issues, the review team examined the Bureau's questionnaire response relative to this indicator, interviewed Bureau management and staff, and considered any possible workload backlogs.

The Agency has assigned approximately 23 full time equivalents (FTE) total, including management and contractor support, to implement the Agreement State program and has adequate funds to support the program. This Section of the report will discuss the staffing and

training for support of the materials program. Staffing and training for the Sealed Source and Device Evaluation Program are discussed in Section 4.2. Staffing and training for the Uranium Recovery Program are discussed in Section 4.4.

The Bureau has three Sections: the Radioactive Materials Section (the RAM Section), the Registration and Certification Section, and the Electronic Products Section. The RAM Section has two Units: the Materials Licensing Unit and the Inspection and Enforcement Unit. These two units are responsible for the routine licensing and inspection of 742 specific materials licensees with 12.7 budgeted FTE. The State's General License (GL) program is managed in the Registration and Certification Section with approximately 1 FTE. As a result of the reorganization in July 2003, the Low-Level Radioactive Waste and Site Decommissioning Section (the Decommissioning Section) was transferred to the Bureau of Environmental Safety within the Agency. However, the Decommissioning Section continues to provide technical support to the Bureau by managing the uranium recovery, financial assurance, and orphan source programs. They also provide decommissioning and license termination support. The Decommissioning Section has 3.6 FTE budgeted for this support. An internal policy memorandum describes the coordination of assignment and responsibility between the two bureaus.

The Bureau has an experienced staff and low staff turnover. The Bureau lost three staff members since the last IMPEP: one retired; one requested reassignment; and the Senior Project Manager for regulatory affairs was reassigned to the Bureau of Nuclear Facility Safety during the 2003 reorganization. The Radioactive Materials Section Head assumed the regulatory affairs responsibilities, but was deployed for military duty on October 1, 2004. The remaining two positions were filled expediently with staff from within the Agency.

The qualifications of the staff were determined from the questionnaire, training records, and interviews of personnel. The staff are well qualified through both education and experience. All staff have at least a Bachelor's degree in the sciences, or equivalent training and experience.

The Bureau has a documented training and qualification program for technical staff that is modeled after NRC's Manual Chapter (MC) 1246, "Formal Qualification Programs in the Nuclear Materials Safety and Safeguards Area." The Bureau uses a combination of self-study, formal training, and on-the-job experience to qualify both inspectors and license reviewers.

The Illinois Radiation Protection Advisory Council was created by the General Assembly in 1959. It is composed of seven members appointed by the Governor and two ex officio members. The members reflect a variety of backgrounds in the use of radiation sources. A Conflict of Interest Questionnaire form is filed and maintained on each member of the Council.

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

### 3.2 Status of Materials Inspection Program

The team focused on five factors in reviewing this indicator: inspection frequency and overdue inspections of Priority I, II, and III licensees; initial inspection of new licenses; timely dispatch of inspection findings to licensees; and the performance of reciprocity inspections. The review team's evaluation is based on the Bureau's response to the questionnaire relative to this

indicator, data gathered independently from the Bureau's licensing and inspection data tracking system, the examination of completed inspection casework, and interviews with managers and staff.

The review team's evaluation of the Bureau's inspection priorities verified that inspection frequencies for various types or groups of licenses are as frequent, or more frequent, than similar license types listed in the NRC Inspection Manual Chapter (IMC) 2800. The Bureau requires more frequent inspection in some license categories. Type A broad scope academic licenses are inspected on a one-year frequency compared with the NRC three-year frequency. Nuclear laundry licenses are inspected on a two-year frequency compared with the NRC three-year frequency. Nuclear pharmacy licenses are inspected on a one-year frequency compared with the NRC two-year frequency. Type A broad scope research and development licenses are inspected on a one-year frequency compared with the NRC three-year frequency. Type B and C broad scope academic licenses are inspected on a two-year frequency compared with the NRC five-year frequency. *A number of inspections and their frequencies have been left out of this section. Illinois inspects almost every licensee more frequently than NRC. We would like these included to clearly demonstrate Illinois' commitment to the inspection process.*

The Bureau tracks all inspection activities in a database. The Bureau provided a list of all inspections conducted during the review period, including inspections of non-Agreement material and telephone contacts. The Bureau conducts approximately 400 inspections per year. The review team noted that the Bureau's licensing and inspection data tracking system was difficult to use. The Bureau was not able to query the database to provide the information needed to assess status over the entire review period. Consequently, the review team examined a sampling of inspections files. *NRC states our database was difficult to use for tracking inspections in accordance with IMPEP criteria. We provided all the appropriate data. The Agency is able to ensure that inspections are performed in accordance with standards that are more restrictive than NRC. Although we are reviewing the database to see if changes are warranted, the current system has served our purposes very well, and it should be noted that it is not required that we design our database solely to meet IMPEP queries.*

In response to the questionnaire, the Bureau indicated that there were no inspections currently overdue by more than 25 percent of the NRC frequency. This information was verified during the examination of 104 inspection files during a time frame, May through June 2004, and the review of the monthly inspection reports provided to the team. None of the inspections were conducted overdue. Of the 104 inspection files reviewed, 25 were initial inspections. Initial inspections were scheduled and conducted within one-year of license issuance.

The timeliness of the issuance of inspection findings was evaluated by the team's review of inspection casework. In the majority of the cases, the response letters and inspection reports to the licensee regarding the inspection results were sent within 30 days of the inspection date.

Also as a result of the problems experienced in manipulating the data tracking system, the team was not able to apply the reciprocity inspection frequency criteria prescribed in IMC 1220, Appendix III. The team was unable to determine the amount of reciprocity licensees inspected each year based on the number of candidates for inspection. The Bureau's inspection data tracking system provided that 40 licensees had submitted requests for reciprocity during the review period. The review team verified that out of the 40 licensees, the Bureau inspected 26,

which provides that 65 percent of the licensees were inspected over the review period. Although the team was unable to determine that at least 20 percent of the reciprocity candidates were inspected each year, the overall percentage of licensees inspected over the review period was determined to be an acceptable alternative.

The review team's difficult experience with the Bureau's data tracking system was discussed with managers and staff. The Bureau provided that the issues would be discussed with information technology staff and that steps would be taken to decrease the level of difficulty associated with manipulating and retrieving data from the tracking system. Notwithstanding the difficulty, the review team did not identify any licensees that were inspected overdue. The Bureau inspects their licensees at least as frequent, and often more frequently than NRC. The Bureau communicates inspection results to the licensees in a timely fashion, and inspects an acceptable number of reciprocity licensees.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Status of the Materials Inspection Program, be found satisfactory.

### 3.3 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and interviewed staff members for 20 radioactive materials inspections conducted during the review period. The casework included work performed by all of the Bureau's material inspectors, and covered a variety of license types including: academic; medical; nuclear pharmacy; industrial radiography; pool irradiator; service provider; manufacturing and distribution; well logging; and research and development. Appendix C lists the inspection casework reviewed for completeness and adequacy with case-specific comments, as well as the results of the inspection accompaniments.

Based on the casework reviewed, the review team noted that the inspections covered all aspects of the licensees' radiation programs. The review team determined that inspection reports were generally very thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that a licensee's performance with respect to health and safety was acceptable. The documentation supported violations, recommendations made to the licensee, unresolved safety issues, and discussions held with the licensee during exit interviews. Team inspections were performed for larger and complex licensees and for training purposes.

The previous IMPEP evaluation in 2001 identified that the majority of violations cited by Bureau staff were record keeping infractions and that many inspections were not conducted in a performance-based, risk-informed manner. Inspections evaluated during this review identified that a performance-based, risk-informed approach is now utilized by the program.

The Inspection Unit Supervisor, who signs compliance letters to licensees, reviewed completed inspection reports. Field Compliance Reports are sometimes issued in the field by inspectors when no violations are identified during an inspection. Supervisory accompaniments were conducted annually for all inspectors.

The team identified that inspection findings were appropriate, and prompt regulatory actions were taken, as necessary. All inspection findings were clearly stated and documented in the reports, and reviewed by the inspection supervisor. The Bureau has the ability to require

management meetings and impose civil penalties when it is deemed that the licensee has had a significant breakdown in operations affecting health and safety. The enforcement program and administrative proceedings are detailed in the State's regulations found in Title 32 of the Illinois Administrative Code, Parts 310 and 200, respectively. Escalated enforcement actions are issued by the Assistant Director of the Agency.

The Bureau has adequate numbers and types of radiation survey instruments to support their radiation control program efforts. These instruments are calibrated by Agency laboratory personnel at their Regional Calibration Laboratory located in Springfield, which is managed by the Bureau of Nuclear Facility Safety. Appropriate, calibrated survey instruments such as GM meters, scintillation detectors, ion chambers, micro-R-meters, and neutron meters were observed. Portable multi-channel analyzers are used in response to incidents and recycling facility alarms. Air monitoring equipment is also available.

The Radiochemistry Laboratory, in Springfield, which is managed by the Bureau of Environmental Safety, evaluates water samples, soil samples and wipe tests. The Bureau has a satellite radiochemistry laboratory in West Chicago, near the Kerr-McGee decommissioning site.

Three Bureau inspectors were accompanied during inspections by a review team member in February and March 2005. Inspection accompaniments included: a pool irradiator; a well logger; and a reciprocity transportation inspection, as identified in Appendix C. During the accompaniments, each inspector demonstrated appropriate performance-based inspection techniques and knowledge of the regulations. The inspectors were trained, prepared, and thorough in their audits of the licensees' radiation safety programs. Each inspector also utilized good health physics practices during the inspections. Interviews with licensee personnel were performed in an effective manner, and the inspections were adequate to assess radiological health and safety at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

#### 3.4 Technical Quality of Licensing Actions

The review team interviewed license reviewers, evaluated the licensing process, and examined licensing casework for 27 licensing actions. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequate facilities and equipment, adherence to good health physics practices, financial assurance, operating and emergency procedures, appropriateness of license conditions, and overall technical quality. The casework files were also evaluated for timeliness, use of appropriate deficiency letters and cover letters, reference to appropriate regulations, product certifications, supporting documentation, consideration of enforcement history, pre-licensing visits, supervisory review as indicated, and proper signatures. The files were checked for retention of necessary documents and supporting data.

The licensing casework was selected to provide a representative sample of licensing actions, which were completed during the review period by eight different license reviewers. The cross-section sampling focused on the new licenses, amendments, renewals, and license terminations issued during the review period. The sampling included the following types of licenses: academic (including broad scope); pool irradiator; well logging; industrial radiography; research



and development (including broad scope); source manufacturing and distribution; nuclear pharmacy; veterinary medicine; mobile nuclear medicine; medical private practice; and medical institution (including therapy and broad scope). Licensing actions evaluated included 3 new licenses, 8 renewals, 13 amendments, 1 financial assurance update, and 2 termination files. A listing of the casework licenses evaluated with case specific comments may be found in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, consistent, and of high quality with health and safety issues properly addressed. License tie-down conditions were stated clearly, backed by information contained in the file, and inspectable. The licensee's compliance history was taken into account when reviewing renewal applications and amendments. Reviewers appropriately utilize the State's licensing guides, license templates, standard conditions, and application review checklists to ensure consistency on licensing actions. The exemptions noted in the questionnaire response were determined to be appropriate, implemented uniformly, and well documented by license conditions.

Licensing actions are all tracked via "blue sheets." The blue sheets are generated by the clerical staff upon receipt, the information entered into the database, and then the action is assigned to a license reviewer. The blue sheets follow the status of the licensing action throughout the process. Good communication was recognized between licensing and inspection staff via "green sheets" placed in license files. These sheets are utilized for license reviewers and inspectors to communicate any issues or problems identified during the review process or inspection. Additionally, for some complex licensing actions, license reviewers performed a pre-licensing inspection of the facility prior to issuance of the license. This inspection provided the reviewer with a more in-depth understanding of the licensee's program, which aided in an effective licensing action.

The review team found that the staff follows appropriate licensing guides, similar to NRC's NUREG 1556 series, during the review process to ensure that licensees submit information necessary to support their request. The review team found the checklists used for each type of program to be comprehensive and incorporated excellent notes to assist the staff with their review of the applications. Letters and documented telephone and electronic conversations contained appropriate regulatory language and addressed deficiencies. The use of license templates by the staff, incorporating standard conditions, also resulted in notable consistency between reviewers. Overall, the review team found that the licensing actions were thorough, complete, consistent, of high quality, and properly addressed health and safety issues.

The review team found that terminated licensing actions were well documented. The files included the appropriate material transfer reports and survey records. An evaluation of the selected termination records indicated excellent communication between the licensing, inspection, and decommissioning staff to prevent abandonment of radioactive material. The files showed that documentation of proper disposal or transfer was provided.

When a licensing action is completed by a reviewer, the entire package is given to the Materials Licensing Unit Supervisor and then to the Radioactive Materials Section Head for approval. The Materials Licensing Unit Supervisor signs all licensing actions. *The Section Head does not approve licensing actions. Once staff completes the review and prepares the license, the Licensing Unit Supervisor approves and signs the action.* Licenses are issued for a five-year term. The Bureau has instituted an expedited renewal process, where a licensee submits

an application and identifies any parts of his radiation safety program that have changed, and confirms that all other portions are still current. Licenses that are under timely filed status are amended as necessary to assure that public health and safety issues are addressed during the period that the license is undergoing the renewal process.

The Bureau requires certain licensees to maintain financial assurance for decommissioning. Surety instruments are maintained in a locked cabinet in the Decommissioning Section Head's office. The Decommissioning Section determines the financial assurance requirements for the licensing staff. The review team noted good communication between the Materials Licensing Unit and the Decommissioning Section, and evaluated the contents of several financial assurance folders, which were found to be in good order.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

### 3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Bureau's actions in responding to incidents, the review team examined the Bureau's response to the questionnaire relative to this indicator, evaluated selected incidents reported for Illinois in the Nuclear Material Events Database (NMED) against those contained in the Illinois files, and evaluated the casework and supporting documentation for ten material incidents. A list of the incident casework examined is included in Appendix E. The team also reviewed the Bureau's response to 30 allegations involving radioactive materials including 12 allegations referred to the State by NRC during the review period.

The review team discussed the Bureau's incident procedure, file documentation, the State's equivalent to the Freedom of Information Act, Nuclear Materials Event Database, and notification of incidents to the NRC Operations Center with the Program Manager and selected staff.

The Bureau maintains a telecommunications center that is operational 24 hours a day, 7 days a week. The on-duty staff maintains contact with the Radiological Duty Officer who will assess the reported hazard, provide advice and verbal assistance, and, if appropriate, dispatch a response team to the scene. The Bureau uses the NMED data entry software program and provides updates to the NMED national database in a timely manner per the Office of State and Tribal Programs procedure, SA-300: *Reporting Material Events*. The Bureau has worked directly with the NMED contractor to identify and suggest fixes to bugs found in the software.

The Bureau responded to 147 radioactive material incidents as reported to NMED during the review period, and of those, 97 were NRC required reportable incidents. During the last four years there were no incidents involving occupational or public exposures that exceeded the regulatory dose limits. A sample of 10 incidents was selected for review. The incidents included: loss of radioactive material, damaged gauges, leaking sources, medical events, and an abnormal occurrence. The review team found that the Bureau's response to incidents was complete and comprehensive. Initial responses were prompt and well coordinated. Staff communicated well with each other and provided back up when needed. Inspectors were dispatched for on-site investigations, when appropriate, and the State took suitable enforcement action including coordination with the license reviewers and follow up, as appropriate. Staff use the NMED local data entry program and database to store and upload incident data to the NMED national database. The Bureau provides complete and timely incident reports to NMED.

The Bureau has instituted an orphan source program that is funded through a one-time "Recovery and Remediation Fee" on radioactive material licensees in the State who are not required to provide financial assurance. These fees go into a special fund to be used for the recovery and remediation of radioactive materials. When sources are abandoned, the Bureau stores these sources in a secure storage facility and tracks the status of these sources in a database. Periodically, the Bureau sends their staff to collect these sources and package them for disposal. The Bureau then contracts with a broker to pickup and arrange for disposal of the orphan material using the special funds. This fund would be used when the costs cannot be recovered from a responsible party or available financial assurance. The review team recommends the Bureau's orphan source program as a good practice.

The team reviewed the Bureau's response to 30 allegations received during the review period involving radioactive materials including 12 allegations referred to the Bureau by NRC. The evaluation of the 30 allegation cases indicated that the Bureau took prompt and appropriate action in response to the alлегers' concerns. Through review of the casework and interviews with staff, the review team determined that the Bureau provided feedback to alлегers either verbally or in writing when possible. Any alлегer requesting anonymity is informed that every effort will be made to protect his/her identity, but it cannot be guaranteed. All interviewed staff was knowledgeable of the Bureau's allegation procedure. There were no performance issues identified from the review of allegation files and documentation.

Based on the IMPEP evaluation criteria the review team recommends that Illinois' performance with respect to the indicator, Technical Quality of Response to Incidents and Allegations, be found satisfactory.

#### 4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in evaluating Agreement State programs: (1) Legislation and Program Elements Required for Compatibility; (2) Sealed Source and Device Evaluation Program; (3) Low-Level Radioactive Waste Disposal Program; and (4) Uranium Recovery Program.

##### 4.1 Compatibility Requirements

###### Legislation

The State provided, in their response to the questionnaire, a listing of legislation that affects the radiation control program. The Agency is designated as the State radiation protection agency under the provisions of the Radiation Protection Act of 1990, as amended [420 Illinois Compiled Statutes (ILCS) 40]. The Bureau implements the program for the Agency. The Act grants the Agency the authority to promulgate rules and regulations to be followed in the administration of the radiation protection program. The Illinois Emergency Agency Act [20 ILCS 3305] and the Nuclear Safety Law of 2004 [20 ILCS 3310] resulted in the subsuming of the Illinois Department of Nuclear Safety into the Illinois Emergency Management Agency in July 2003. The current legislation that affects the radiation control program is as follows:

The Radioactive Waste Storage Act [420 ILCS 35], the Illinois Low-Level Radioactive Waste management Act [420 ILCS 20] and the Uranium and Thorium Mill Tailings Control Act [420 ILCS 42] statutes provide authority for the low-level radioactive waste disposal and uranium recovery programs.

Other statutes which affect the radiation control program include: Central Midwest Radioactive Waste Compact Act [45 ILCS 140]; Department of Nuclear Safety [20 ILCS 2005]; Freedom of Information Act [5 ILCS 140]; Freedom of Information Act [5 ILCS 140/1 - 140/11]; and Illinois Administrative Procedure Act [5 ILCS 100].

Public Act 91-752, which was effective June 2, 2000, extended the sunset date for the Radiation Protection Act until January 1, 2011. The other aforementioned statutes do not have sunset provisions.

#### Program Elements Required for Compatibility

The State regulations for control of radiation are located in Title 32 of the Illinois Administrative Code and apply to all ionizing radiation, whether emitted from radionuclides or devices. Illinois requires a license for possession and use of radioactive materials, including naturally occurring and accelerator-produced radionuclides.

The review team examined the State's rulemaking process and found that the process takes approximately six months after preparation of a draft rule. An additional review of regulations by the Governor's office has been implemented since the last IMPEP review. The Bureau staff does not believe this will affect the normal time for rule promulgation. Proposed rules are published in the Illinois Register with a minimum 45-day comment period, and may include a public hearing. At this point, the proposed rules are sent to NRC for review. After resolution of comments, the Bureau provides the comments and responses to the Joint Committee on Administrative Rules (JCAR), a bipartisan committee consisting of legislators from the Illinois House of Representatives and Senate. After resolution of JCAR comments, the rule must be re-published for comment if substantial changes were made or scheduled for a vote at the next available monthly JCAR meeting. Approved rules are published as final in the Illinois Register. Final rules are sent to the NRC for a final review and compatibility determination and updated on the Bureau's website. The Bureau has the authority to issue legally binding requirements (e.g., license conditions) in lieu of regulations until compatible regulations become effective.

The review team evaluated the Bureau's response to the questionnaire, reviewed the status of regulations required to be adopted by the State under the Commission's adequacy and compatibility policy, and verified regulation status with data obtained from the Office of State and Tribal Programs' Regulation Action Tracking System (RATS). Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally binding requirements no later than three years after they are effective.

The Bureau has had continuing challenges in this area of their program, as identified during the 1997 and 2001 IMPEP reviews. In 1997, the review team recommended that the Bureau's performance be found unsatisfactory for this indicator. However, based on information provided during the MRB meeting, the MRB determined that the State's performance was satisfactory. During the 2001 IMPEP, the review team found the Bureau was continuing to face challenges. The review team recommended that the State adopt regulations, or other legally binding requirements, which were overdue for adoption. The MRB affirmed the finding of satisfactory with recommendations for improvement (now "satisfactory, but needs improvement") for this indicator. The status of this recommendation was discussed during the 2002 and 2004 periodic meetings and continued to be unresolved.

Bureau staff explained to the current review team that there has been a “philosophical shift” in the last two years and the Bureau intends to comply with the requirement that Agreement State regulations be adopted and compatible with NRC regulations. Bureau staff began to work on overdue regulations in 2003 to address the overdue regulations. The regulation packages are currently being reviewed by the Bureau’s legal staff. The Bureau also faced staffing challenges in this area during the last two years. As discussed in Section 3.1 of this report, the Bureau lost the senior project manager for regulatory affairs to the Bureau of Nuclear Safety during the 2003 reorganization. The Radioactive Materials Section Head assumed these responsibilities, but was deployed for military duty on October 1, 2004. In the meantime, the Materials Licensing Unit Supervisor is acting for the Section Head. ***This paragraph states that staff began working on rules in 2003. This not entirely accurate. A number of the rules in question were adopted by Illinois but not recognized by NRC. Correspondence was sent to NRC regarding this in 2000 and 2002.***

Based on information contained in the State Regulation Status Sheet (SRS), the State has 14 rule amendments overdue. Nine of the overdue rule amendments are in draft form at various stages in the Bureau’s legal review process. The State agreed to send the NRC the draft version of these nine rules for review. The remaining five overdue amendments will be superceded when the State adopts the amendments “Medical Use of Byproduct Material,” and “Financial Assurance for Materials Licensees.” Both of these amendments were not due for adoption during the review period, but are in draft form within the Bureau. In addition to the 14 currently overdue amendments, during the review period, the State adopted 10 amendments late, (i.e. past the three-year window for Agreement State adoption). All the rules mentioned above are summarized below with their current status. ***All of the RATS currently due were submitted to the review team on 4/4/05 and NRC STP on 5/2/05. The statement that the “Medical Use of Byproduct Material” and “Financial Assurance For Materials Licensees” are overdue is incorrect. These were not due until 4/24/05 and 10/25/05 for medical and 12/3/06 for financial assurance. These findings should be removed from the report.***

The following nine rule amendments are overdue for adoption (***incorrect, some of these are adopted and final in Illinois***) but they are currently in draft form and undergoing legal review within the Bureau. They have not been sent into the NRC for review as required by SA-201. The State has agreed to send these draft rules to the NRC for review.

- "Compatibility with the International Atomic Energy Agency," 10 CFR Part 71 amendment (60 FR 50248 and 61 FR 28724) was due for adoption on October 20, 1998 [RATS ID 1996-1]. ***Part 341 (NRC Part 71) was proposed in the Illinois Register on 12/3/04 and was final on May 2, 2005. This finding should be removed from the report.***

- "Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials: Clean Air Act," 10 CFR Part 20 amendment (61 FR 65119) was due for adoption on January 9, 2000 [RATS ID 1997-1].

- "Radiological Criteria for License Termination," 10 CFR Parts 20, 30, 40, and 70 amendments (62 FR 39057) were due for adoption on August 20, 2000 [RATS ID 1997-6]. ***Part 330.320 of the Illinois regulations outlines the termination rule. Each case is evaluated using this rule and the NRC’s MARSIM guide. Surveys of***

*sites using unsealed materials are required of each licensee and confirmed by follow-up surveys by our inspection staff. For sealed sources each source is tracked cradle to grave by serial number using the licensees inspection records, leak tests and our form KLM.007 (see attachment 3) certifying where they went and under what license it was authorized. Illinois terminates sites to standard at least as restrictive as NRC if not more so. This finding should be removed from the report since it is addressed by rule and the licensing process.*

• "Transfer for Disposal and Manifests; Minor Technical Conforming Amendment," 10 CFR Part 20 amendment (63 FR 50127) was due for adoption on November 20, 2001 [RATS ID 1998-6].

• "Respiratory Protection and Controls to Restrict Internal Exposures," 10 CFR Part 20 amendment (64 FR 54543 and 64 FR 55524) was due on February 2, 2003 for adoption [RATS ID 1999-3].

• "Energy Compensation Sources for Well Logging and Other Regulatory Clarifications," 10 CFR Part 39 amendment (65 FR 20337) was due on May 17, 2003 for adoption [RATS ID 2000-1]. *Part 351 (NRC Part 39) was submitted to NRC and two comments were made by NRC that turned out not to be valid as leak test requirements were included in 351.1050(a) and the exchange/replacement of dosimetry is specifically requested on our application forms (see attachment 4). Therefore, this Part should have been found compatible in November of 2003 when initially submitted. This rule was final in Illinois in August 27, 2004. This finding should be removed from the report.*

• "New Dosimetry Technology," 10 CFR Parts 34, 36, and 39 amendments (65 FR 63749) was due on January 8, 2004 for adoption [RATS ID 2000-2].

• "Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material," 10 CFR Parts 30,31,32 amendments (65 FR 63749) were due for adoption on February 16, 2005 [RATS ID 2001-1]. *This rule was adopted by reference in all applicable license documents (see attachment 5 for letter of commitment from licensees). This was found acceptable during the last IMPEP and should be eliminated from this report. Certain other rules incorporated by license condition were found to be acceptable by STP after the 2005 IMPEP. We have adopted this rule by reference for each licensee. This meets the compatibility standard. This finding should be removed from the report.*

• "Revision of the Skin Dose Limit," 10 CFR Part 20 amendment (67 FR 1629) was due for adoption on April 5, 2005 [RATS ID 2002-1].

The following four amendments are overdue for adoption. The team notes that they will be superceded when the State adopts the amendment "Medical Use of Byproduct Material," 10 CFR Parts 20,32, and 35 amendments (67 FR 20249) that will become due for adoption on October 24, 2005 [RATS ID 2002-2]. The State has drafted rules to meet the requirements of 2002-2. The State has agreed to send in the draft rules for NRC review.

- · Quality Management Program and Misadministrations," 10 CFR Part 35 amendment (56 FR 34104) was due for adoption and on January 27, 1995 [RATS ID 1992-1]. *This rule has long been superseded by the new Part 35. Illinois and most Agreement States agreed that this rule was unfeasible from the start as NRC also did, as evidenced by its omission from the new part 35. This finding should be removed from the report.*
- "Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use," 10 CFR Parts 30, 32, 35 (59 FR 61767; 59 FR 65243; 60 FR 322) was due for adoption and on January 1, 1998 [RATS ID 1995-1].
- "Frequency of Medical Examinations for Use of Respiratory Protection Equipment," 10 CFR part 20 amendment (60 FR 7900) was due for adoption and on March 13, 1998 [RATS ID 1995-2].
- "Medical Administration of Radiation and Radioactive Materials ," 10 CFR Parts 20, 35 amendments (60 FR 48623) are due for adoption and on October 20, 1998 [RATS ID 1995-7]. *We adopted this rule on May 2, 1994 concurrently with NRC. In addition, it will be superseded by our new draft of Part 35. This should be deleted from the report.*

The following amendment is overdue for adoption. The team notes it will be superceded when the State adopts the amendment "Financial Assurance for Materials Licensees," 10 CFR Parts 30, 40, 70 amendments (69 FR 3697) [RATS ID 2003-1] which will become due for adoption and a final compatibility review on December 3, 2006. The State has drafted rules to meet the requirements of 2003-1.

- "Clarification of Decommissioning Funding Requirements," 10 CFR Parts 30, 40, seven amendments (60 FR 38235) were due for adoption and on November 24, 1998 [RATS ID 1995-6]. *Illinois adopted this rule on June 1, 2000. The Agency requires financial assurance for facilities to a level much more restrictive than NRC. Financial assurance arrangements are required for facilities possessing or using sealed sources greater than 37 GBq (1Ci). Financial assurance arrangements and reclamation plans are required for other facilities possessing or using significant nuclides/activities of radioactive material as specified by the regulation. We are uncertain why NRC does not consider this RATS competed. We have sent this version to STP again for review.*

The following two amendments are overdue for adoption. However, the State does not have any current facilities subject to this provision and until they receive a license application subject to these provisions, they do not need to adopt RATS ID 1994-2. In addition, the State has identified that the current uranium recovery facility is grandfathered under the last sentence of 10 CFR 40, Appendix A, Criterion 6 (6) and, therefore, does not need to adopt RATS ID 1999-1. Therefore neither of these amendments are being counted as overdue with respect to this indicator. The States SRS will be updated to reflect these conditions.

- "Uranium Mill Tailings Regulations: Conforming NRC Requirements to EPA Standards," 10 CFR Part 40 amendment (59 FR 28220) was due for adoption and on July 1, 1997 [RATS ID 1994-2].
- "Radiological Criteria for License Termination of Uranium Recovery Facilities," 10 CFR Part 40 amendment (64 FR 17506) was due on June 11, 2002 for adoption and final compatibility determination [RATS ID 1999-1]. *The Agency has always maintained that these do not apply to Illinois. Finally, after several rounds of discussion NRC has agreed. These should be removed from the report.*

For the following 10 amendments, the State has final regulations or other legally binding requirements in place. These amendments have not been submitted to NRC for a final compatibility determination. The State adopted all of these amendments late (i.e. past the three-year window for State adoption). The State has agreed to send in the final, as adopted, rule for NRC review.

- "Safety Requirements for Radiographic Equipment," 10 CFR Part 34 amendment (55 FR 843) was due for adoption on January 10, 1994 [RATS ID 1991-1].
- "Radiation Protection Requirements: Amended Definitions and Criteria," 10 CFR Parts 19, 20 amendments (60 FR 36038) was due for adoption on August 14, 1998 [RATS ID 1995-5].
- "Deliberate Misconduct by Unlicensed Persons," 10 CFR Parts 30, 40, 61, 70, and 150 amendments (63 FR 1890 and 63 FR 13773) was due for adoption on February 12, 2001 [RATS ID 1998-1].
- "Minor Corrections, Clarifying Changes, and a Minor Policy Change," 10 CFR Parts 20, 32, 35, 36, and 39 amendments (63 FR 39477 and 63 FR 45393) was due for adoption on October 26, 2001 [RATS ID 1998-5].
- "Notification of Incidents," 10 CFR Parts 20, 30, 31, 34, 39, 40, 70 amendment (56 FR 64980) was due for adoption on October 15, 1994 [RATS ID 1991-4].

Status:           The proposed rule was reviewed by NRC in January 2004 and multiple comments on compatibility were generated. Final rule promulgated.

- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20, 61 amendments (60 FR 15649, 60 FR 25983) was due for adoption on March 1, 1998 [RATS ID 1995-3].



Status: NRC reviewed the proposed rule in November 1999 and comments on compatibility were generated. Final rule promulgated.

"Performance Requirements for Radiography Equipment," 10 CFR Part 34 amendment (60 FR 28323) was due for adoption on June 30, 1998 [RATS ID 1995-4].

Status: NRC reviewed the proposed rule in January 2004 and no comments on compatibility were generated. Final rule promulgated.

"Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations; Clarifying Amendments and Corrections," 10 CFR Part 34 amendment (63 FR 37059) was due for adoption on July 9, 2001 [RATS ID 1997-5].

Status: NRC reviewed the proposed rule in January 2004 and multiple comments on compatibility were generated. Final rule promulgated.

"Licensing and Radiation Safety Requirements for Irradiators," 10 CFR Part 36 amendment (58 FR 7715) was due for adoption on July 1, 1996 [RATS ID 1993-2].

Status: The Bureau has implemented the rule through generic license condition. A final rule has been promulgated.

"Criteria for the Release of Individuals Administered Radioactive Material," 10 CFR Parts 20 and 35 amendments (62 FR 4120) were due for adoption on May 29, 2000 [RATS ID 1997-3]

Status: The Bureau has implemented the rule through generic license condition. The amendment will be addressed when the regulations identified in RATS ID 2002-2 are approved.

The following amendment will become due during the next IMPEP review cycle and is included here to assist the Bureau in including them in future rulemakings or by adopting alternate generic legally binding requirements:

"Compatibility with IAEA Transportation Safety Standards and Other Transportation Safety Amendments," 10 CFR Part 71 amendment (69 FR 3697) is due for adoption and a final compatibility review on October 1, 2007 [RATS ID 2004-1]. *Part 341 was effective in Illinois on May 2, 2005 and was in final notice during the April 4 IMPEP. This adopts all of the applicable portions of 49 CFR and 10 CFR 71 by reference and should be removed from the report.*

The team recommends that the 2001 IMPEP recommendation discussed above remain open and that the State adopt the regulations, or other legally binding requirements, which are overdue for adoption and send them to the NRC for review. In addition, the review team recommends that a periodic meeting be scheduled in one year to review the Bureau's progress in adopting regulations. The result of the periodic meeting should be presented at a subsequent MRB meeting.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Compatibility Requirements, be found unsatisfactory. *All of the RATS applicable to Illinois are either currently adopted or been submitted to STP as drafts as of May 2, 2005. This clearly represents Illinois' commitment to compatibility issues. As previously noted, we sent a letter to STP on September 26, 2000 and again by fax on January 28, 2002 to try and resolve a number of the outstanding RATS. We believe NRC should have been more responsive to these inquiries at the time. The RATS lists for Illinois is not reflective of actual events. As noted above, a number of RATS are not applicable or have been superseded and should be removed from the status list.*

#### 4.2 Sealed Source and Device (SS&D) Evaluation Program

In assessing the Illinois SS&D Evaluation Program, the review team examined the information provided in response to the IMPEP questionnaire. The team evaluated SS&D registry sheets issued during the review period and the supporting document files. The team also evaluated SS&D staff training records, certain reported incidents involving products authorized in Illinois SS&D sheets, the use of guidance documents and procedures, and interviewed the staff currently conducting SS&D evaluations. Three sub-indicators were used to evaluate the Bureau's performance regarding their SS&D Evaluation Program. These sub-indicators were (1) Technical Staffing and Training; (2) Technical Quality of the Product Evaluation Program; and (3) Evaluation of Defects and Incidents Regarding SS&Ds.

##### 4.2.1 Technical Staffing and Training

Presently, the SS&D Evaluation Program is under the Materials Licensing Unit, and three staff members conduct the reviews. The Bureau has budgeted .3 FTE for this program. One previously qualified and experienced SS&D reviewer is currently on military duty. Additionally, the staff can obtain engineering and technical assistance from engineering staff in the Decommissioning Section. The review team evaluated the qualifications of the individuals authorized and currently performing SS&D evaluations. All reviewers were qualified through previous training and experience, as was documented in a staff memorandum dated October 30, 2004. All have regulatory experience, have attended the NRC SS&D Workshop, and have been performing reviews for greater than ten years. The review team noted that SS&D reviewers have degrees in engineering, environmental science, or equivalent training and experience.

The SS&D Evaluation Program has had a constant staffing level during the review period, attributing approximately ten percent of the staff time to SS&D reviews. When compared with the previous review period, there have been fewer SS&D actions, mainly attributable to the relocation of two large manufacturers out of Illinois. This staffing is deemed adequate.

##### 4.2.2 Technical Quality of the Product Evaluation Program

The review team evaluated 8 of the 62 SS&D evaluation actions completed during the review period. The 62 actions consisted of 26 amendments, 32 inactivations, and 4 new registrations, that represented the work of all SS&D reviewers. The cases selected were representative of the Bureau's licensees and SS&D reviewers. A list of SS&D casework examined along with case-specific comments may be found in Appendix F.

The team's review of the casework and interviews with the staff confirmed that the SS&D reviewers used NUREG-1556, Volume 3, and the American National Standards Institute (ANSI)/Health Physics Society (HPS) standards. All pertinent ANSI/HPS standards, regulatory guides, and applicable references were confirmed to be available and were used when performing SS&D reviews. The appropriate review checklist was used to assure relevant materials had been submitted and reviewed. The checklists were retained in all of the registration files examined. In reviewing emergent technology related products and new applications, the SS&D reviewers performed evaluations based on sound health physics principles and used conservative assumptions to ensure the protection of public health and safety. Registration certificates clearly summarized the product evaluation and provided license reviewers with adequate information on areas requiring additional attention to license the possession, use, and distribution of the products. Overall, the review team found the evaluations were of high quality with health and safety issues properly addressed.

The registration files contained all correspondence, engineering drawings, radiation profiles, and results of tests conducted by the applicant. The files were well organized in a consistent manner. Deficiency letters clearly stated regulatory positions and health and safety issues were properly addressed. The review team determined that product evaluations were thorough, complete, consistent, of acceptable technical quality, and adequately addressed the integrity of the products during use and in the event of likely accidents.

#### 4.2.3 Evaluation of Defects and Incidents Regarding SS&D

The Bureau responded to one incident/product failure or defect concerning devices registered by the Bureau. This incident is included in Appendix E. At the time of this review, the investigation was still being conducted. The SS&D staff, in conjunction with inspection staff, conducted a thorough review of the event history, as well as a comparison with similar reported events, to establish the root cause. Currently, the staff is conducting an audit of the licensee's QA/QC program. The outcome of the investigation will determine if there is a generic design or performance issue with this product. The Bureau provided a timely and adequate response in the investigation and resolution of the events. No allegations related to SS&Ds were reported during the review period.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, SS&D Evaluation Program, be found satisfactory.

#### 4.3 Low-Level Radioactive Waste (LLRW) Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Authority and Assumption Thereof by States Through Agreement" to allow a State to seek an amendment for the regulation of LLRW as a separate category. Those States with existing Agreements prior to 1981 were determined to have continued LLRW disposal authority without the need of an amendment. The State's LLRW program is currently inactive, and it is anticipated that there will be no further activity with the program for several years. Therefore, the staff are working on other projects. Accordingly, the review team did not review this indicator.

#### 4.4 Uranium Recovery Program

In conducting this review, five sub-indicators were used to evaluate the Bureau's performance regarding the uranium recovery program. These sub-indicators include: (1) Technical Staffing and Training; (2) Status of Uranium Recovery Inspection Program; (3) Technical Quality of Inspections; (4) Technical Quality of Licensing Actions; and (5) Response to Incidents and Allegations. The results of the uranium recovery program review will be discussed under each of these sub-indicators. In 1990, the Illinois Agreement was amended to include the authority for 11e. (2) byproduct material and the facilities that generate such material.

The Decommissioning Section administers the Bureau's uranium recovery program. The Bureau has only one licensee in the program, the Kerr-McGee Chemical Corporation (Kerr-McGee), Rare Earths Facility, located in West Chicago, Illinois. This facility is in the process of decommissioning. During the review period, the operations at the site included excavation of contaminated material, transport and handling of contaminated materials, water treatment and groundwater monitoring.

#### 4.4.1 Technical Staffing and Training

The technical staff consists of two engineers (mechanical and mining), one health physicist, and a geologist with a support contractor supplying additional expertise in these and other technical areas. The Bureau has 4 FTE budgeted for contractor support in addition to the Decommissioning Section FTE discussed in Section 3.1 of this report. The health physicist is the onsite resident inspector located in West Chicago and has been in the position since 1996. Other staff in the Bureau of Environmental Safety provides additional technical support. The Bureau has outlined the training requirements for staff in the Employee Training Requirements. The requirements consist of technical training, personal instruction, in-house training, outside training and on-the-job training. The review team examined the training, education, and experience of the staff members and found that the qualifications of the technical staff are commensurate with the expertise needed to regulate the radioactive material at the Kerr-McGee site.

The Bureau has contracted with consultants for support of quality assurance at the Kerr-McGee site and technical review of licensing actions. The review team reviewed the qualifications of the consultants. Both the prime and sub-contractors are well qualified. The consultants have employed staff that are well trained in a variety of technical fields. The prime contractor appropriately utilizes sub-contractors for actions with technical issues outside of their specialization. The Decommissioning Section Head has oversight responsibility for the work performed by the contractor staff.

The review team determined that the qualifications of the technical staff are commensurate with expertise identified as necessary to regulate the uranium recovery facilities. Bureau management has developed and implemented a satisfactory training program for staff that is consistent with the review requirements.

#### 4.2.2 Status of Uranium Recovery Inspection Program

The Bureau has an annual inspection frequency for the Kerr-McGee site. The frequency is consistent with the criteria in NRC's IMC 2801 and has been applied since the licensee began decommissioning operations in 1994. The Bureau's resident inspector conducts daily, weekly

and monthly operation checks, and observes site operations daily. In addition, an engineering company under contract with the Bureau supports the resident inspector and performs environmental surveys. The contractor reports its findings to the resident inspector or directly to the Decommissioning Section Head.

The Springfield office staff conducted four annual compliance inspections since the last review. One inspection was outside the 30-day reporting period (31 days) due to the unique nature and extent of decommissioning activities on the project and the depth of the reporting documentation. The review team determined that the inspections were performed at intervals that are consistent with NRC's guidance.

The Bureau reviews the annual environmental monitoring report submitted by the licensee and determines compliance for the environmental program. These reviews are conducted by a consultant and are conducted on a separate schedule from the annual compliance inspections. The Environmental Monitoring and Transportation Section Head has oversight responsibility for these reviews.

#### 4.2.3 Technical Quality of Inspections

The review team examined inspection reports and files, and reviewed documentation for the Kerr-McGee site, including the last four annual inspection reports. The last two environmental monitoring data reviews and quality assurance audits were also reviewed. The review team determined that the reports for the inspections and audits were thorough, complete, consistent, and of high quality, with adequate documentation to determine compliance with regulations, license conditions, and available guidance. Findings noted in earlier inspections were investigated and the proposed resolutions verified at the next inspection.

The onsite resident inspector regularly inspects site operations and reviews data and sampling information required under license condition. Regular meetings are held between the resident inspector, contractors and Springfield staff. These meetings are documented in meeting minutes.

During the review period, the Bureau performed two audits of Kerr-McGee's quality assurance program in order to evaluate the licensee's checks on activities. The Bureau's contractor performed the audit under the supervision of the Bureau staff. Findings were identified as a result of the audits and recorded in an Audit Finding Notice.

#### 4.2.4 Technical Quality of Licensing Actions

The review team evaluated 10 amendments for the Kerr-McGee license issued since the last review. In examining the amendments and selected documentation in the file, the review team found that the many of the license amendments were to change the volume of material leaving the site for disposal and to authorize the receipt of radioactive material brought on to the site from the adjacent areas and residential clean-up activities. Other actions included revision of the air-monitoring program and an application for alternate concentration limits for groundwater. A significant license amendment incorporated new groundwater protection requirements, specifying groundwater constituents and monitoring frequency. The Bureau and its contractors have performed extensive review on the groundwater monitoring plan and application for alternate concentration limits, which were approved in 2001. The listed groundwater

constituents are identified in 10 CFR Part 40. The review team determined that the Bureau used the appropriate regulations and guidance documents for this review.

Based on a review of the licensing file, the team concluded that licensing actions were appropriate and that the license conditions were clear and well written. Requirements associated with these conditions were based on a need to meet the regulation and to protect health and safety. The review team informed Bureau staff of updated NRC guidance to be used in the future, NUREG-1620, "Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978."

#### 4.2.5 Response to Incidents and Allegations

There were no incidents or allegation pertaining to the Kerr-McGee activities during this review period.

Based on the IMPEP evaluation criteria, the review team recommends that Illinois' performance with respect to the indicator, Uranium Recovery Program, be found satisfactory.

## 5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team recommends that Illinois' performance be found satisfactory for seven performance indicators reviewed, but unsatisfactory for the Compatibility Requirements indicator. Accordingly, the review team recommends that the Illinois Agreement State program be found adequate to protect public health and safety, but not compatible with NRC's program. The next full review should take place in approximately four years.

Below is the recommendation, as mentioned in an earlier section of the report, for evaluation and implementation, as appropriate, by the State.

### RECOMMENDATION

2. The review team recommends that the State adopt the regulations, or other legally binding requirements, which are overdue for adoption and send them to the NRC for review. (Section 4.1)

### GOOD PRACTICE:

The review team identified a good practice, in noting that the Bureau has instituted an orphan source program that is funded through a one-time "Recovery and Remediation Fee" on radioactive material licensees in the State who are not required to provide financial assurance. These fees go into a special fund to be used for the recovery and remediation of radioactive materials. When sources are abandoned, the Bureau stores these sources in a secure storage facility and tracks the status of these sources in a database. Periodically, the Bureau sends their staff to collect these sources and package them for disposal. The Bureau then contracts with a broker to pickup and arrange for disposal of the orphan material using the special funds. This fund would be used when the costs cannot be recovered from a responsible party or available financial assurance. *This paragraph states that Recovery and Remediation fees are a one-time fee. Licensees are billed each of the first two years for this. In addition, these are*

*required for everyone including those that pay financial assurance. The report says only licensees not paying financial assurance pay this fee. This error also occurs on page 8, last paragraph. In addition, Illinois would like other good practices reflected in this section such as the 274i security inspections, our outstanding general license program, our incident response activities (we investigate each incident and scrap yard alarm in person, perform characterization of the material and provide waste disposal options) and our licensee survey program (a satisfaction survey is sent out with each license action and inspection report).*

## LIST OF APPENDICES

Appendix A	IMPEP Review Team Members
Appendix B	Illinois Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
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Appendix F	Sealed Source and Device Casework Reviews



APPENDIX A

IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Vivian Campbell, Region IV	Team Leader Technical Staffing and Training
James Lynch, Region III	Technical Quality of Inspections Program Inspector Accompaniments
Terry Brock, STP	Technical Quality of Incident and Allegation Activities Compatibility Requirements
Shawn Smith, STP	Status of Materials Inspection Program
Jill Caverly, NMSS	Uranium Recovery Program
Eric Jameson, Georgia	Technical Quality of Licensing Actions Sealed Source and Device Evaluation Program

APPENDIX B  
ILLINOIS ORGANIZATION CHARTS  
ML051230486

## APPENDIX C

### INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1

Licensee: JANX

Inspection Type: Initial, Unannounced

Inspection Date: 3/11/03

License No.: IL-02168-01

Priority: 1

Inspector: GM

Comment:

Identified as "routine" versus "initial" in inspection report. *JANX had been inspected as a reciprocity licensee many times before so this was not an initial inspection.*

File No.: 2

Licensee: Bard Brachytherapy, Inc.

Inspection Type: Routine, Unannounced

Inspection Date: 6/29/04

License No.: IL-02062-01

Priority: 1

Inspector: WH

File No.: 3

Licensee: Medi-Physics, Inc.

Inspection Type: Routine, Unannounced

Inspection Date: 2/8/05

License No.: IL-01052-01

Priority: 1

Inspector: AG

Comment:

No mention of second pharmacy location authorized on license. *Inspection was for only Chicago site, not complete license. Each site is inspected independently.*

File No.: 4

Licensee: NuClin Diagnostics, Inc.

Inspection Type: Routine, Announced

Inspection Date: 5/18/04

License No.: IL-01551-01

Priority: 1

Inspectors: JK, RM, DP

File No.: 5

Licensee: Methodist Medical Center of Illinois

Inspection Type: Routine, Unannounced

Inspection Dates: 8/3-4/04

License No.: IL-01204-01

Priority: 1

Inspector: GM

Comment:

Inspection letter issued late (42 days).

File No.: 6

Licensee: Schlumberger Well Services

Inspection Type: Reciprocity, Unannounced

License No.: 77-00347-01

Priority: 2

Inspection Date: 1/20/05

Inspector: GM

File No.: 7

Licensee: Cardinal Health, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Dates: 2/2-3/05

License No.: IL-01721-01  
Priority: 1  
Inspector: WH

File No.: 8

Licensee: Abbott Laboratories  
Inspection Type: Initial, Announced  
Inspection Date: 12/3/04

License No.: IL-01478-02  
Priority: 1  
Inspector: JK

Comment:

Supervisory review of Field Compliance Report not documented in report.

File No.: 9

Licensee: REVISS Services, Inc.  
Inspection Type: Routine, Announced  
Inspection Date: 12/22/04

License No.: IL-02058-01  
Priority: 3  
Inspector: JP

File No.: 10

Licensee: Lixi, Inc.  
Inspection Type: Initial, Announced  
Inspection Date: 6/30/04

License No.: IL-01339-01  
Priority: 1  
Inspector: JP

File No.: 11

Licensee: Loretto Hospital  
Inspection Type: Routine, Unannounced  
Inspection Date: 9/23/04

License No.: IL-01378-01  
Priority: 3  
Inspector: JP

File No.: 12

Licensee: Sterigenics U.S., Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 6/15/01

License No.: IL-01220-01  
Priority: 1  
Inspector: WH

File No.: 13

Licensee: Illinois Institute of Technology  
Inspection Type: Routine, Unannounced  
Inspection Date: 2/18/05

License No.: IL-01739-01  
Priority: 1  
Inspectors: RM, AG

Comment:

Supervisory review of Field Compliance Report not documented in report.

File No.: 14

Licensee: Team Cooperheat-MQS, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 12/22/04

License No.: IL-01136-01  
Priority: 1  
Inspector: GM

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File No.: 15  
Licensee: Steris, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 3/2/05

License No.: IL-01123-01  
Priority: 1  
Inspector: WH

File No.: 16  
Licensee: Landauer, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 8/30/04

License No.: IL-01376-01  
Priority: 2  
Inspector: RM

File No.: 17  
Licensee: Northern Illinois University  
Inspection Type: Routine, Announced  
Inspection Dates: 3/24-25/04

License No.: IL-01773-01  
Priority: 1  
Inspector: JP

File No.: 18  
Licensee: Baxter Healthcare Corporation  
Inspection Type: Special, Announced  
Inspection Date: 3/8/04

License No.: IL-01278-02  
Priority: 3  
Inspector: KG

Comment:

Decommissioning wipe test results were not in file, but were located by inspector.  
License file will be updated.

File No.: 19  
Licensee: Rush Copley Medical Center  
Inspection Type: Routine, Unannounced  
Inspection Date: 11/12/04

License No.: IL-01207-01  
Priority: 2  
Inspector: JK

File No.: 20  
Licensee: Illini Hospital  
Inspection Type: Routine, Unannounced  
Inspection Date: 7/25/03

License No.: IL-01772-01  
Priority: 3  
Inspector: JK

Comment:

Supervisory review of Field Compliance Report not documented in report.

### INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1

Licensee: MDS Nordion

Inspection Type: Reciprocity, Unannounced

Inspection Date: 2/2/05

License No: 77-00129-01

Priority: 1

Inspector: RM

Accompaniment No.: 2

Licensee: Steris Isomedix Services

Inspection Type: Routine, Unannounced

Inspection Date: 3/2/05

License No: IL-01123-01

Priority: 1

Inspector: WH

Accompaniment No.: 3

Licensee: Warrior Well Services

Inspection Type: Routine, Unannounced

Inspection Date: 3/9/05

License No: IL-01825-01

Priority: 2

Inspector: GM

## APPENDIX D

### LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1 Licensee: Bard Brachytherapy, Inc. Type of Action: Renewal Date Issued: Pending	License No.: 86-02062-01 Amendment No.: pending License Reviewer: MEB
File No.: 2 Licensee: Bard Brachytherapy, Inc. Type of Action: Amendment Date Issued: 1/28/05	License No.: 86-02062-01 Amendment No.: 18 License Reviewer: MEB
File No.: 3 Licensee: STERIS, Inc. Type of Action: Amendment Date Issued: 1/24/05	License No.: IL-01123-01 Amendment No.: 12 License Reviewer: GWM
File No.: 4 Licensee: STERIS, Inc. Type of Action: Renewal Date Issued:	License No.: IL-01123-01 Amendment No.: 11 License Reviewer: SMK
File No.: 5 Licensee: Sterigenics USA, Inc. (formerly Ion Beam Applications) Type of Action: Amendment Date Issued: 2/23/05	License No.: IL-01220-01 Amendment No.: 29 License Reviewer: SMK
File No.: 6 Licensee: Cardinal Health, Inc. Type of Action: Amendment Date Issued: 3/11/05	License No.: IL-01721-01 Amendment No.: 36 License Reviewer: MEB
File No.: 7 Licensee: Cardinal Health, Inc. Type of Action: Renewal Date Issued: 4/25/03	License No.: IL-01721-01 Amendment No.: 33 License Reviewer: MEB
File No.: 8 Licensee: Rush University Medical Center Type of Action: Amendment Date Issued: 5/24/04	License No.: IL-01766-01 Amendment No.: 18 License Reviewer: SMK
File No.: 9 Licensee: Rush University Medical Center Type of Action: Renewal	License No.: IL-01766-01 Amendment No.: 14

Date Issued: 6/25/02

License Reviewer: MEB

File No.: 10

Licensee: G. D. Searle LLC

Type of Action: Termination

Date Issued: 8/2/04

License No.: IL-01469-01

Amendment No.: 16

License Reviewer: GWM

File No.: 11

Licensee: G. D. Searle LLC

Type of Action: Amendment

Date Issued: 10/8/03

License No.: IL-01469-01

Amendment No.: 14

License Reviewer: GWM

File No.: 12

Licensee: University of Illinois – Champagne Urbana

Type of Action: Renewal

Date Issued: 5/7/04

License No.: IL-01271-01

Amendment No.: 26

License Reviewer: SMK

File No.: 13

Licensee: Michael Reese Medical Center Corporation

Type of Action: Termination

Date Issued: 9/30/02

License No.: IL-01097-02

Amendment No.: 12

License Reviewer: SMK

File No.: 14

Licensee: Advanced Radiation Oncology Center

Type of Action: Amendment

Date Issued: 6/25/04

License No.: IL-02178-01

Amendment No.: 4

License Reviewer: SMK

File No.: 15

Licensee: Advanced Radiation Oncology Center

Type of Action: New

Date Issued: 2/25/03

License No.: IL-02178-01

Amendment No.: 00

License Reviewer: MEB

File No.: 16

Licensee: Methodist Medical Center of Illinois

Type of Action: Amendment

Date Issued: 11/30/04

License No.: IL-01204-01

Amendment No.: 53

License Reviewer: TLH

File No.: 17

Licensee: Methodist Medical Center of Illinois

Type of Action: Renewal

Date Issued: 3/11/03

License No.: IL-01204-01

Amendment No.: 47

License Reviewer: TLH

File No.: 18

Licensee: Resurrection Medical Center

Type of Action: Expedited renewal

Date Issued: 6/9/04

License No.: IL-01034-02

Amendment No.: 26

License Reviewer: CGV



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File No.: 19  
Licensee: Resurrection Medical Center  
Type of Action: Emendment  
Date Issued: 6/28/04

License No.: IL-01034-02  
Amendment No.: 27  
License Reviewer: TLH

File No.: 20  
Licensee: Michael Reese Medical Center Corporation  
Type of Action: Amendment  
Date Issued: 3/18/05

License No.: IL-01097-01  
Amendment No.: 25  
License Reviewer: JCB

File No.: 21  
Licensee: Warrior Well Services  
Type of Action: Amendment  
Date Issued: 6/30/04

License No.: IL-01825-01  
Amendment No.: 8  
License Reviewer: DP

File No.: 22  
Licensee: Veterinary Specialty Center  
Type of Action: Expedited renewal  
Date Issued: 10/6/04

License No.: IL-02071-01  
Amendment No.: 5  
License Reviewer: SMK

File No.: 23  
Licensee: U.S. Inspection Services  
Type of Action: Amendment  
Date Issued: 8/31/04

License No.: IL-02188-01  
Amendment No.: 2  
License Reviewer: MEB

File No.: 24  
Licensee: U.S. Inspection Services  
Type of Action: Amendment  
Date Issued: 4/15/04

License No.: IL-02188-01  
Amendment No.: 1  
License Reviewer: MEB

File No.: 25  
Licensee: U.S. Inspection Services  
Type of Action: Amendment  
Date Issued: 11/19/03

License No.: IL-02188-01  
Amendment No.: 00  
License Reviewer: MEB

File No.: 26  
Licensee: Diagnostic Health Services  
Type of Action: Amendment  
Date Issued: 12/17/04

License No.: IL-01397-01  
Amendment No.: 61  
License Reviewer: DSP

File No.: 27  
Licensee: Alion Science and Technology  
Type of Action: New  
Date Issued: 9/9/03

License No.: IL-02187-01  
Amendment No.: 00  
License Reviewer: MEB

Comment:

License Condition 19 states that closeout records of facilities prior to their release for unrestricted use shall be maintained for 2 years. The standard condition states a 5-year retention period. Staff commits to issue a corrected copy of the license.

## APPENDIX E

### INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY.

File No.: 1  
Licensee: Crompton Corp. License No.: IL-01314-01  
Date of Incident: 8/21/01 NMED No.: 010794  
Investigation Date: 8/22/01 Type of Incident: Damaged Gauges by Fire  
Type of Investigation: Inspection

File No.: 2  
Licensee: Non-licensee License No.: NA  
Date of Incident: 10/30/01 NMED No.: 011012  
Investigation Date: 10/30/01 Type of Incident: Abandoned Source Found at a scrap yard  
Type of Investigation: Inspection

File No.: 3  
Licensee: Saint Alexius Medical Center License No.: IL-01512-01  
Date of Incident: 1/22/02 NMED No.: 020130  
Investigation Date: 1/23/02 Type of Incident: Radioactive Material Released in a Hospital  
Type of Investigation: Phone, Written Report

File No.: 4  
Licensee: Medi-Physics License No.: IL-01109-01  
Date of Incident: 2/14/02 NMED No.: 020451  
Investigation Date: 2/20/02 Type of Incident: Lost and Found Radioactive Material  
Type of Investigation: Phone, Written Report

File No.: 5  
Licensee: Children's Memorial Hospital License No.: IL-01165-01  
Date of Incident: 5/14/2002 NMED No.: 020640  
Investigation Date: 5/15/02 Type of Incident: Radioactive Material Released  
in a Research Lab  
Type of Investigation: Phone, Written Report

File No.: 6  
Licensee: SCI Engineering Inc. License No.: IL-01413-01  
Date of Incident: 9/17/02 NMED No.: 020893  
Investigation Date: 9/18/02 Type of Incident: Lost and Recovered Gauge  
Type of Investigation: Phone, Written Report

File No.: 7  
Licensee: Conam Inspection, Inc. License No.: IL-01225-22  
Date of Incident: 3/17/03 NMED No.: \\  
Investigation Date: 3/20/03 Type of Incident: Lost and Found Radioactive Material  
Type of Investigation: Phone, Written Report

File No.: 8  
Licensee: Rush Copley Medical Center License No.: IL-01052-01  
Date of Incident: 7/28/03 NMED No.: 030624  
Investigation Date: 7/30/03 Type of Incident: Medical Event (Abnormal Occurrence)  
Type of Investigation: Inspection

File No.: 9  
Licensee: Saint James Hospital & Health Center License No.: IL-01289-01  
Date of Incident: 8/3/04 NMED No.: 040603  
Investigation Date: 8/4/04 Type of Incident: HDR Equipment Failure  
Type of Investigation: Phone, Written Report

File No.: 10  
Licensee: Construction & Geotechnical Material Testing, Inc. License No.: IL-02179-01  
Date of Incident: 11/8/04 NMED No.: 040851  
Investigation Date: 11/9/04 Type of Incident: Damaged Gauge  
Type of Investigation: Inspection

File No.: 11  
Licensee: Bard Brachytherapy License No.: IL-02062-01  
Date of Incident: 10/26/04 NMED No.: 040777  
Investigation Date: 10/29/04 thru present Type of Incident: Transportation, Product QA  
Type of Investigation: Phone, Written report, QA audit

Comment:  
Investigation is on going; staff is evaluating licensee's QA/QC procedures

APPENDIX F

SEALED SOURCE AND DEVICE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1  
Registry No.: IL-1072-D-101-S  
Manufacturer: Hopewell Designs, Inc.  
Date Issued: 1/3/01  
SS&D Type: (J) Self-Contained Gamma Irradiator  
Model No.: P11C APD Irradiator  
Type of Action: initial issue, custom device  
SS&D Reviewers: SMK, CGV

Comments:

- a) Custom evaluation, Matsushita Industrial Equipment Corporation of America
- b) Reference letter dated 11/12/1998 not in file

File No.: 2  
Registry No.: IL-8127-D-803-S  
(was NR-610-D-103-S)  
Manufacturer: Soiltest, Inc.  
Date Issued: 2/20/03  
SS&D Type: (G) Moisture Density Gauge  
Model No.: NIC-5 Series  
Type of Action: Inactivation  
SS&D Reviewers: SMK (*MEB reviewer, not SMK*), CGV

Comments:

- a) Good attempt to track down 25-year old information

File No.: 3  
Registry No.: IL-1074-S-101-S  
Manufacturer: Bard Brachytherapy, Inc. (SourceTech Medical)  
Date Issued: 9/25/01  
SS&D Type: (AA) Manual Brachytherapy  
Model No.: STM 125I  
Type of Action: Amendment  
SS&D Reviewers: DMP, CGV

File No.: 4  
Registry No.: IL-1074-S-101-S  
Manufacturer: Bard Brachytherapy, Inc. (SourceTech Medical)  
Date Issued: 10/7/03  
SS&D Type: (AA) Manual Brachytherapy  
Model No.: STM 125I  
Type of Action: Amendment  
SS&D Reviewers: MEB, CGV

Comments:

- a) telefax dated 3/27/03 not in file

File No.: 5  
Registry No.: IL-1079-D-101-G  
Manufacturer: Indev Gauging Systems  
Date Issued: 9/24/02  
SS&D Type: (D) Gamma Gauge; (E) Beta Gauge  
Model No.: DRN 07736 (was 105.002)  
Type of Action: Amendment  
SS&D Reviewers: MEB, CGV

File No.: 6  
Registry No.: IL-1082-S-101-S  
Manufacturer: REVISS Services, Inc.  
Date Issued: 4/6/04

SS&D Type: High Energy Gamma Source  
Model No.: RSL2089 (formerly CKC.LSA)  
Type of Action: Amendment  
SS&D Reviewers: CGV, JGK

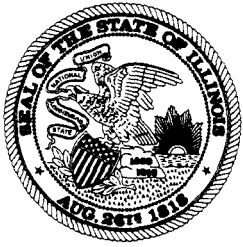
File No.: 7  
Registry No.: IL-136-S-338-S  
Manufacturer: Medi-Physics, Inc.  
Date Issued: 2/27/03

SS&D Type: (AA) Manual Brachytherapy  
Model No.: 6711 (OncoSeed)  
Type of Action: Amendment  
SS&D Reviewers: MEB, CGV

File No.: 8  
Registry No.: IL-136-S-338-S  
Manufacturer: Medi-Physics, Inc.  
Date Issued: 10/18/04

SS&D Type: (AA) Manual Brachytherapy  
Model No.: 6711 (OncoSeed)  
Type of Action: Amendment  
SS&D Reviewers: SMK, CGV

EXHIBIT C



ILLINOIS DEPARTMENT OF NUCLEAR SAFETY  
 1035 OUTER PARK DRIVE  
 SPRINGFIELD, ILLINOIS 62704

This State agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under 420 ILCS 40/1-40/44. Disclosure of this information is required. Failure to provide any information will result in this form not being processed. This form has been approved by the Forms Management Center.

**CERTIFICATE  
 TERMINATION AND DISPOSITION OF RADIOACTIVE MATERIAL**

<b>LICENSEE:</b>	<b>LICENSE NUMBER:</b>
<b>ADDRESS:</b>	<b>TELEPHONE NUMBER:</b>

The following information is provided in accordance with 32 Ill. Adm. Code 330.320, "Expiration and Termination of Licenses." This regulation appears on the back of this form. Check all that apply below.

- 1. All use of radioactive material authorized under the above referenced license has been terminated.
- 2. Radioactive contamination has been removed to the level outlined in 32 Ill. Adm. Code 340. Appendix A, to the extent practicable.
- 3. All radioactive material previously procured and/or possessed under the authorization granted by the above referenced license has been disposed of as follows:
  - Transferred to (Name and Address): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 who is authorized to possess such material under License Number \_\_\_\_\_  
 issued by (Licensing Agency): \_\_\_\_\_
  - Decayed, surveyed and disposed of as non-radioactive waste.
  - Licensed under License Number: \_\_\_\_\_  
 issued by (Licensing Agency): \_\_\_\_\_
  - No radioactive material has ever been procured and/or possessed by the licensee under the authorization granted by the above referenced license.
  - Other (Attach additional pages).
- 4. Attached are radiation surveys or the equivalent as specified in 32 Ill. Adm. Code 330.320(d)(1)(E).
- 5. Records required to be maintained for the license requested to be terminated are available at the following location:
 

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Telephone No.: \_\_\_\_\_ Contact Person: \_\_\_\_\_
- 6. Additional remarks. (Attach additional pages.)

THE UNDERSIGNED, ON BEHALF OF THE LICENSEE, HEREBY CERTIFIES THAT LICENSABLE QUANTITIES OF RADIOACTIVE MATERIAL UNDER THE JURISDICTION OF THE ILLINOIS DEPARTMENT OF NUCLEAR SAFETY ARE NOT POSSESSED BY THE LICENSEE. IT IS THEREFORE REQUESTED THAT THE ABOVE REFERENCED LICENSE BE TERMINATED.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_  
 (print or type)

### Section 330.320 Expiration and Termination of Licenses

- a) Except as provided in Section 330.330(b), the authority to engage in licensed activities as specified in the specific license shall expire at the end of the specified day in the month and year stated therein. Any expiration date on a specific license applies only to the authority to engage in licensed activities. Expiration of a specific license shall not relieve the licensee of responsibility for decommissioning its facility and terminating the specific license.
- b) Each licensee shall notify the Department immediately, in writing and request termination of the license when the licensee decides to terminate all activities involving radioactive materials authorized under the license. This notification and request for termination shall include the documents required by subsection (d) below and shall otherwise substantiate that the licensee has met all of the requirements in subsection (d) below.
- c) No less than 30 days before the expiration date specified in the license, the licensee shall either:
  - 1) Submit an application for license renewal under Section 330.330; or
  - 2) Notify the Department, in writing, if the licensee decides not to renew the license. The licensee requesting termination of a license shall comply with the requirements of subsection (d) below.
- d) Termination of Licenses
  - 1) If a licensee does not submit an application for license renewal under Section 330.330, the licensee shall, on or before the expiration date specified in the license:
    - A) Terminate use of radioactive material;
    - B) Remove radioactive contamination to the level outlined in 32 Ill. Adm. Code 340.Appendix A, to the extent practicable;
    - C) Properly dispose of radioactive material;
    - D) Submit a completed Department Form KLM.007; and
    - E) Submit a radiation survey report to confirm the absence of radioactive materials or to establish the levels of residual radioactive contamination, unless the licensee demonstrates the absence of residual radioactive contamination in some other manner. The radiation survey report shall specify the instrumentation used and certify that each instrument was properly calibrated and tested. The licensee shall, as applicable, report levels or quantities of:
      - i) Beta and gamma radiation at 1 centimeter from surfaces in units, multiples, or subunits of sieverts or rem per hour;
      - ii) Gamma radiation at 1 meter from surfaces in units, multiples, or subunits of sieverts or rem per hour;
      - iii) Removable radioactivity on surfaces in units, multiples, or subunits of becquerels or curies per 100 square centimeters of surface area, or in disintegrations (transformations) per minute per 100 square centimeters of surface area;
      - iv) Fixed radioactivity on surfaces in units, multiples, or subunits of becquerels or curies per 100 square centimeters of surface areas or in disintegrations (transformations) per minute per 100 square centimeters of surface area;

- v) Radioactivity in contaminated liquids such as water, oils or solvents in units, multiples, or subunits of becquerels or curies per milliliter of volume; and
  - vii) Radioactivity in contaminated solids such as soils or concrete in units, multiples, or subunits of becquerels or curies per gram of solid.
- 2) If no residual radioactive contamination attributable to activities conducted under the license is detected, the licensee shall submit a certification that no detectable radioactive contamination was found. The Department will notify the licensee, in writing, of the termination of the license.
  - 3) If detectable levels or residual radioactive contamination attributable to activities conducted under the license are found:
    - A) The license continues in effect beyond the expiration date, if necessary, with respect to possession of residual radioactive material present as contamination until the Department notifies the licensee in writing that the license is terminated. During this time the licensee is subject to the provisions of subsection (e) below.
    - B) In addition to the information submitted under subsections (1)(D) and (1)(E) above the licensee shall submit a plan for decontamination, if required, as regards residual radioactive contamination remaining at the time the license expires.
  - e) Each licensee who possesses residual radioactive material under subsection (d)(3) above, following the expiration date specified in the license, shall:
    - 1) Limit actions involving radioactive material to those related to decontamination and other activities related to preparation for release for unrestricted use; and
    - 2) Continue to control entry to restricted areas until they are suitable for release for unrestricted use and the Department notifies the licensee in writing that the license is terminated.

(Source: Amended at 18 Ill. Reg. 5553, effective March 29, 1994)



**ITEM 14. General Rules for the Safe Use of Radioactive Material (Check one)**

- We will use the procedure identified in Appendix J of Instructional Set 48.6 dated October 1994.
- Procedure is attached.

**ITEM 15. Emergency Procedure (Check one)**

- We will use the procedure identified in Appendix K of Instructional Set 48.6 dated October 1994.
- Procedure is attached.

**ITEM 16. Area Survey Procedure (Check one)**

- We will use the procedure identified in Appendix L of Instructional Set 48.6 dated October 1994.
- Procedure is attached.

**ITEM 17. Waste Disposal (Check one)**

- We do not wish authorization for alternate disposal methods.
- Alternate disposal methods are detailed in an Attachment to this application. (This includes Decay-in-Storage procedures for isotopes with  $T_{1/2} < 90$  days.)

**ITEM 18. Testing Sealed Sources for Leakage and/or Contamination (Check one)**

- We will use a commercial service to perform analysis of leakage and/or contamination samples. We will maintain a copy of the commercial service's license authorizing such services.
- We will perform our own sample analysis for source leakage and/or contamination. Procedure is attached.

**ITEM 19. Bioassays (Check one)**

- Not applicable.
- We will use the procedure for radioactive bioassays identified in Appendix N of Instructional Set 48.6 dated October 1994.
- Procedure is attached.

**ITEM 20. Procedure for Use of Radioactive Gases/Volatile Material (Check one)**

- Not applicable.
- Occupational dose limit/ventilation calculations are attached.

**ITEM 21. Procedure for Use of Radioactive in Animals (Check one)**

- Not applicable.
- Procedure is attached.

**ITEM 22. Personnel Monitoring (Check all that apply)**

TYPE	EXCHANGE FREQUENCY	FILM	TLD	OSL
<input type="checkbox"/> Whole body	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Extremity	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Direct reading dosimeters will be used and calibrated in accordance with Appendix P of Instructional Set 48.6 dated October 1994.				
<input type="checkbox"/> Direct reading dosimeter use and calibration procedures are attached.				

## REQUEST FOR LICENSE AMENDMENT

Charles Vinson, Head of Materials Licensing  
 Illinois Department of Nuclear Safety  
 Division of Radioactive Materials  
 1035 Outer Park Dr  
 Springfield, IL 62704-4462

We verify that \_\_\_\_\_ will follow the revised  
name of company  
 transfer reporting requirements of the United States Nuclear Regulatory Commission as  
 described at 10 CFR 32.52(a) and (b). These changes were published in the *Federal  
 Register* on December 18, 2000, (65 FR 79184) and were effective for NRC licensees on  
 February 16, 2001. We will implement the changes beginning the third calendar quarter  
 of 2001.

We hereby request that the Illinois Department of Nuclear Safety amend our license  
 number IL- \_\_\_\_\_ to require \_\_\_\_\_  
name of company  
 to follow the transfer reporting requirements of 10 CFR 32.52(a) and (b) beginning the  
 third calendar quarter of 2001.

\_\_\_\_\_  
 RSO Name (Print or Type)

\_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Date