



**UNITED NEW YORKS
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

October 24, 2022

Alexander Damiani, Director
Bureau of Environmental Radiation Protection
Empire New York Plaza-Corning Tower-12th Floor
Albany, NY 12237

Mark Horberg, Director, Office of Radiological Health
Bureau of Environmental Sciences and Engineering
New York City Department of Health and Mental Hygiene
42-09 28th Street, CN56
Long Island City, NY 11101

Dan Evans, Acting Chief
Radiation Control Permit Section
Division of Materials Management
New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7255

Dear Messrs. Damiani, Horberg, and Evans:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the review of Agreement State and NRC radiation control programs. Enclosed is the draft IMPEP report which documents the results of the New York Agreement State review conducted July 18-29, 2022. In person inspector accompaniments were completed during the months of March, June, and July 2022. The team's preliminary findings were discussed with you and your staff on the last day of the review, with a follow-up exit meeting conducted remotely on September 8, 2022. The team recommends that the New York Agreement State Program be found adequate to protect public health and safety but needs improvement and not compatible with NRC's program.

The NRC conducts periodic reviews of radiation control programs to ensure that public health and safety are adequately protected from the potential hazards associated with the use of radioactive materials and that Agreement State programs are compatible with the NRC's program. The IMPEP process uses a team comprised of Agreement State and NRC staff to perform the reviews. All reviews use common criteria in the assessment and place primary emphasis on performance. The final determination of adequacy and compatibility is made by the Management Review Board (MRB) Chair with receiving input from the IMPEP team, MRB members, and representatives of Agreement State being reviewed. The MRB is composed of NRC senior managers and an Agreement State program manager.

In accordance with procedures for implementation of IMPEP, we are providing you with a copy of the draft report for your review and comment prior to submitting the report to the MRB. Comments are requested within 4 weeks from your receipt of this letter. This schedule will permit the issuance of the final report in a timely manner.

The team will review the response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. The MRB meeting is scheduled to be conducted on December 13, 2022, at 1:00 pm EST. The NRC will provide invitational travel for one representative to attend the meeting at the NRC Headquarters in Rockville, Maryland. The NRC will also provide you with Microsoft Teams connection information prior to the meeting.

If you have any questions regarding the enclosed report, please contact Randy Erickson at Randy.Erickson@NRC.gov at (817) 200-1143.

Thank you for your cooperation.

Sincerely,



Signed by Anderson, Brian
on 10/24/22

Brian C. Anderson, Chief
State Agreement and Liaison Programs Branch
Division of Materials Safety, Security, State
and Tribal Programs
Office of Nuclear Material Safety and Safeguards

Enclosure:
FY2022 New York Draft IMPEP Report

cc: Lily Huang, PE, Assistant Commissioner
Bureau of Environmental Sciences
and Engineering
New York City Department of Health
and Mental Hygiene

SUBJECT: NEW YORK FY2022 DRAFT IMPEP REPORT DATE OCTOBER 24, 2022

Distribution:

KWilliams, NMSS
TClark, NMSS
FGaskins, RI
BTharakan, RIV
BGoretzki, AZ
NStanley, NJ
DEsh, NMSS
KSchwab, WA
JPate, LA

SXu, NMSS
BWelling, RI
TBloomer, RI
DWhite, NMSS
KCornelius, OAS Chair Elect
State of New York
ASTrainingandtravel.Resource@nrc.gov
IMPEP.Resource@nrc.gov

ADAMS Accession No. ML22281A002

OFFICE	RIV	NMSS	NMSS
NAME	RErickson	RJohnson	BAnderson
DATE	10/05/2022	10/05/2022	10/24/2022

OFFICIAL RECORD COPY



INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE NEW YORK PROGRAM

July 18-29, 2022

DRAFT REPORT

Enclosure

EXECUTIVE SUMMARY

The results of the 2022 Integrated Materials Performance Evaluation Program (IMPEP) review of the New York Agreement State Program (New York) are discussed in this report. The review was conducted from July 18 - 29, 2022. In-person inspector accompaniments were conducted by three team members during the months of March, June, and July 2022.

The team found New York's performance to be satisfactory for five of the eight performance indicators: Technical Staffing and Training, Status of Materials Inspection Program, Technical Quality of Inspections, Technical Quality of Licensing Actions, and Technical Quality of Incident and Allegation Activities. The team also found New York's program to be satisfactory but needs improvement for the following two performance indicators: Sealed Source and Device Evaluation Program and the Low-Level Radioactive Waste Disposal Program. The team also found New York unsatisfactory for the performance indicator Legislation, Regulations, and Other Program Elements. It should be noted that the Legislation, Regulations, and Other Program Elements (formerly Compatibility Requirements) performance indicator was also found unsatisfactory over the last four IMPEP reviews, in addition to the 2022 IMPEP review recommendation. However, the team has determined that New York has made progress on resolving previous NRC-generated comments and has revised the recommendation. The 2022 IMPEP team recommends closing the 2018 Technical Quality of Inspections performance indicator recommendation and modifying the 2018 IMPEP review Legislation, Regulations and Other Program Elements (LROPE) indicator recommendation to have Department of Health and Department of Environmental Conservation establish processes to expedite the review and adoption of NRC regulations in accordance with the current NRC policy on adequacy and compatibility and adopt all overdue regulations by the next IMPEP review. The 2022 IMPEP team also made seven new recommendations regarding the availability of calibrated survey instruments, development of incident and allegation procedures, development of Sealed Source and Device (SS&D) qualification procedures, following established guidance by SS&D reviewers, closing inactive SS&D registrations, updating procedures for Low-Level Radioactive Waste (LLRW), and documentation related to LLRW procedures for licensing, inspection, and incident and allegation activities.

Accordingly, the team recommends that New York be found adequate to protect public health and safety but needs improvement. Since the team noted that New York Agreement State Program has the potential to create gaps, conflicts, duplication, or other conditions that could jeopardize an orderly pattern in the collective national effort to regulate agreement materials, the team also recommends that New York be found not compatible with the NRC's program.

Based on the results of the 2022 IMPEP review and the decline in performance, the team recommends that New York be placed on a period of heightened oversight, consistent with the criteria in Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)."

Based on the results of the 2022 IMPEP review, the team recommends that a follow-up IMPEP review, for the less than satisfactory indicators, and a periodic meeting for the satisfactory indicators be conducted in approximately 2 years. Based on the results of the Follow-Up IMPEP review, the Management Review Board Chair will determine the timing of the next full IMPEP review.

1.0 INTRODUCTION

The New York Agreement State Program (New York) review was conducted from July 18 - 29, 2022, by a team of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the States of Louisiana, Arizona, Washington, and New Jersey. Team members are identified in Appendix A. In-person inspector accompaniments were conducted during the months of March, June, and July 2022. The inspector accompaniments are identified in Appendix B. The review was conducted in accordance with the "Agreement State Program Policy Statement," published in the *Federal Register* on October 18, 2017 (82 FR 48535), and NRC Management Directive (MD) 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated July 24, 2019. In addition, the team used Temporary Instruction [TI-003](#), "Evaluating the Impacts of the COVID-19 Public Health Emergency as Part of Integrated Materials Performance Evaluation Program (IMPEP)," dated October 21, 2020, to evaluate the impact of the pandemic on New York's Program. Preliminary results of the review, which covered the period of March 23, 2018, to July 29, 2022, were discussed with New York managers on the last day of the review.

New York is currently administered by three agencies: (1) the New York State Department of Environmental Conservation (DEC), which has jurisdiction over discharges of radioactive material to the environment, including releases to the air and water, and the land disposal of radioactive wastes; (2) the New York City Department of Health and Mental Hygiene (NYC), which has jurisdiction over medical, academic, and research uses of radioactive materials within the five boroughs of New York City; and (3) the New York State Department of Health (DOH), which has jurisdiction over industrial uses of radioactive materials throughout the State, as well as medical, academic, and research uses outside of New York City. Organization charts for the DEC, NYC, and the DOH, are available in NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession Numbers [ML22167A108](#), [ML22188A067](#), and [ML22200A299](#), respectively.

In preparation for the review, a questionnaire addressing the common performance indicators and applicable non-common performance indicators was sent to the New York Agreement State Program on May 17, 2022. The three agencies (DEC, NYC, and DOH) provided separate questionnaire responses on June 9, 2022, June 29, 2022, and July 8, 2022, respectively. The questionnaire responses are available in [ML22167A110](#), [ML22188A068](#), and [ML22200A289](#), respectively.

At the time of the review, New York regulated 1270 specific licenses authorizing possession and use of radioactive materials with the DOH having 996 licensees and NYC having 274 licensees. Additionally, the DEC also regulates 27 materials permit holders for radioactive effluent discharges and radioactive waste disposal from all state-regulated radioactive materials licensees. The review focused on the radiation control program as it is carried out under Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of New York.

The team evaluated the information gathered against the established criteria for each common and applicable non-common performance indicator and made a preliminary assessment of the New York program's performance.

2.0 PREVIOUS IMPEP REVIEW AND STATUS OF RECOMMENDATIONS

The previous IMPEP review concluded on March 23, 2018. The final report is available in [ML18179A372](#). The results of the review and the status of the associated recommendations are as follows:

Technical Staffing and Training: Satisfactory but Needs Improvement
Recommendation: None

Status of Materials Inspection Program: Satisfactory
Recommendation: None

Technical Quality of Inspections: Satisfactory
Recommendation: The team recommends that the NYC inspectors obtain additional training regarding the application of U.S. Department of Transportation (DOT) regulations to material licensee inspections and take steps to properly perform associated inspections.

Status: The 2022 IMPEP review team found that NYC inspectors had obtained the additional training regarding the application of DOT regulations to materials licensee applications and have properly applied them to their inspection process. This was confirmed during inspector accompaniments prior to the 2022 review. The 2022 IMPEP team recommends that this recommendation be closed.

Technical Quality of Licensing Actions: Satisfactory
Recommendation: None

Technical Quality of Incident and Allegation Activities: Satisfactory
Recommendation: None

Legislation, Regulations, and Other Program Elements (formerly Compatibility Requirements): Unsatisfactory

Recommendation: The 2014 and 2018 IMPEP teams recommended that New York make appropriate regulatory changes to resolve NRC-generated comments as noted in regulation review letters and adopt NRC regulations in accordance with the current NRC policy on adequacy and compatibility.

Status: The 2022 IMPEP team determined that New York has made progress on resolving NRC-generated comments and recommends that the first part of the recommendation be closed. The 2022 IMPEP team also found that the DOH and the DEC have overdue regulations from both the 2014 and 2018 review periods. As a result, the team recommends that the second part of the 2018 IMPEP recommendation remain open and be modified as follows:

- The DOH and the DEC establish processes to expedite the review and adoption of NRC regulations in accordance with the current NRC policy on adequacy and compatibility and adopt all overdue regulations by the next IMPEP review.

Sealed Source and Device (SS&D) Program: Satisfactory
Recommendation: None

Low-Level Radioactive Waste (LLRW) Disposal Program: Satisfactory
Recommendation: None

Overall finding: Based on the results of the 2018 IMPEP review, New York was found adequate to protect public health and safety and not compatible with the NRC's program. Additionally, the Management Review Board (MRB) chose to discontinue the period of Heightened Oversight and initiate a period of Monitoring.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators were used to review the New York radiation control program. 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

The ability to conduct effective licensing and inspection programs is largely dependent on having a sufficient number of experienced, knowledgeable, well-trained technical personnel. Under certain conditions, staff turnover could have an adverse effect on the implementation of these programs and could affect public health and safety. Apparent trends in staffing must be assessed. Review of staffing also requires consideration and evaluation of the levels of training and qualification. The evaluation standard measures the overall quality of training available to, and taken by, materials program personnel.

a. Scope

The team used the guidance in State Agreements procedure [SA-103](#), "Reviewing the Common Performance Indicator: Technical Staffing and Training," and evaluated New York's performance with respect to the following performance indicator objectives:

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing of the licensing and inspection programs.
- Management is committed to training and staff qualification.
- The State's training and qualification program is equivalent to NRC Inspection Manual Chapter (IMC) 1248, "Formal Qualifications Program for Federal and New York Material and Environmental Management Programs."
- Qualification criteria for new technical staff are established and are followed, or qualification criteria will be established if new staff members are hired.
- Individuals performing materials licensing and inspection activities are adequately qualified and trained to perform their duties.
- License reviewers and inspectors are trained and qualified in a reasonable period of time.

b. Discussion

In the NYC program, there are eleven positions responsible for the administration of the radiation control program (RCP), from the Assistant Commissioner of Environmental Sciences and Engineering to the newest staff member that came on board in April 2022. The total Full-Time Equivalents (FTE) used for the program is about 5.45 FTE when fully staffed. During the review period, the Director of the Office of Radiological Health left in

2019 and was replaced by the Unit Chief of radiation producing equipment at the time. That created a vacancy for the Unit Chief of radiation producing equipment. The vacancy was filled by an internal candidate when the former equipment manager and emergency preparedness specialist, that was also a license reviewer in training, was promoted to the Unit Chief position. That promotion created a vacancy in 2020, which was filled by an external hire. The external hire completed the required training for a license reviewer and was well on their way to being fully qualified, but unfortunately, the individual resigned in May 2022, thus leaving one vacant license reviewer position in the NYC program. The position is expected to be posted within 1-2 months from the end of the review period.

The team determined that the NYC training and qualification program is compatible with the NRC's IMC 1248. The current NYC management is committed to staff training. All current staff have continued to take online training throughout the COVID-19 Public Health Emergency (PHE). Individual staff members maintained their own training records; however, the centralized tracking of refresher training stopped during the pandemic. During the IMPEP review, the Unit Chief re-initiated tracking of staff training in a centralized excel spreadsheet.

At the DOH, the Bureau of Environmental Radiation Protection administers the RCP. The Bureau also has responsibility for radiation-producing equipment, mammography, radon, environmental protection from radiation, and emergency preparedness. At the time of the review, the RCP had 35 employees and 11 vacancies. Of those 35 employees, 22 of them had a partial role in the implementation of the RCP, totaling 10 FTE for the program. At the time of the review, the RCP included the Director, the Associate Director, the Radioactive Materials Licensing Section Chief, the Inspection and Enforcement Section Chief, 16 technical staff members, and two clerical positions.

Six vacancies were at the senior radiological health specialist position (entry level), three at the associate radiological health specialist, and two at the principal radiological health specialist. Of the 11 vacancies, 8 occurred near the end of the review period (or since December 2021), 2 positions have been vacant since November 2019, and the remaining vacancy has been open since mid-2009. The Bureau is intentionally holding the long-standing vacancy open to hire a medical physicist upon the retirement of their current board-certified medical physicist. The Bureau also plans to convert a vacant principal radiological health specialist position to the Associate Director position because the Associate Director position was removed from the Bureau upon retirement of the previous Associate Director. During the review period, nine staff members left the program, including the Director and Associate Director. Most staff left due to retirement, a few staff members transferred, or changed careers. Six staff were hired or transferred into the program during the review period, including the Bureau Director and a new Inspection and Enforcement Section Chief. Both the Bureau Director and new Section Chief had significant prior experience with the RCP. The new hires all possessed the requisite education and experience to fulfill the radiological health specialist position. Five senior radiological health specialists were promoted to Associate Radiological Health Specialist positions during the review period. The 11 vacancies in the Bureau will be filled to address the overall needs of the program, accordingly. In the near term, the Bureau expects to post and fill the 6 entry level vacancies within 6-12 months from the end of the review period. The team did not find that the vacancies had a direct impact on program performance because resources can be reassigned and prioritized as needed to meet their needs and New York intends to hire and train additional staff to achieve its mission.

The Bureau has a training and qualification program compatible with the NRC's IMC 1248. Staff qualifications and training are tracked by their supervisors. Staff members are assigned increasingly complex assignments as they progress through the qualification process. Licensing and inspection actions are assigned based on the staff member's education, experience, and training prior to and within the Bureau. The Bureau conducts a 2-day annual meeting in October that covers a host of regulatory and technical topics that is part of the Bureau's continuing education and refresher training program. Additional details about SS&D staffing and training are presented and evaluated in Section 4.2 of this report.

At the DEC, the Radiation Control Permit Section (RCPS) is responsible for the regulation, inspection and permitting of radioactive materials discharges and supporting the state's radiological emergency preparedness plan, and the Radioactive Materials Management Section (RMMS) is responsible for technical support and oversight of contaminated sites, the West Valley State-licensed Disposal Area (SDA), and emergency services. Additional details about RMMS staffing and training for the LLRW Program are presented and evaluated in Section 4.4 of this report.

The RCPS staff includes one supervisor and four technical staff. When fully staffed, the RCPS has 5.0 FTE. The supervisor is at the Environmental Radiation Specialist 3 (ERS3) level and there are two positions each at the ERS2 and ERS1 level. There were two vacancies at the time of the IMPEP review. In 2019, two new staff members were hired. In 2021, one of the new hires and another staff member left RCPS for positions in other divisions or agencies within New York state government. Because the scope of RCPS responsibilities is limited to inspecting and permitting radioactive discharges to the environment, the section developed training and qualification that is equivalent to NRC IMC 1248 that directly relate to discharges, licensing, and inspection. Two of the three current staff members are fully qualified to review permit applications and to inspect permits that are issued. The DEC indicated that the ability to take virtual classes afforded staff the opportunity to complete training in a timely manner. All staff members take refresher and supplementary training as needed to meet the requirements of NRC IMC 1248 and their respective positions within the DEC.

Management at all three New York agencies strongly supports training and staff development. The team noted that although the COVID-19 PHE restricted travel and reduced the number of in-person training opportunities, New York's staff continues to enroll in NRC virtual classes, when available. New York's staff also completed additional online training courses offered by other agencies such as EPA, DOT, and IAEA, to maintain refresher training hours.

c. Evaluation

The team determined that, during the review period, New York met the performance indicator objectives listed in Section 3.1.a. Based on the criteria in MD 5.6, the team recommends that New York's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.2 Status of Materials Inspection Program

Inspections of licensed operations are essential to ensure that activities are being conducted in compliance with regulatory requirements and consistent with good safety and security practices. The frequency of inspections is specified in IMC 2800, "Materials Inspection Program," and is dependent on the amount and type of radioactive material, the type of operation licensed, and the results of previous inspections. There must be a capability for maintaining and retrieving statistical data on the status of the inspection program.

a. Scope

The team used the guidance in [SA-101](#), "Reviewing the Common Performance Indicator: Status of the Materials Inspection Program," and evaluated New York's performance with respect to the following performance indicator objectives:

- Initial inspections and inspections of Priority 1, 2, and 3 licensees are performed at the prescribed frequencies (<https://www.nrc.gov/materials/miau/mat-toolkits.html>).
- Deviations from inspection schedules are normally coordinated between technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Candidate licensees working under reciprocity are inspected in accordance with the criteria prescribed in NRC IMC 2800 and other applicable guidance or compatible Agreement State Procedure.
- Inspection findings are communicated to licensees in a timely manner (30 calendar days, or 45 days for a team inspection), as specified in IMC 0610, "Nuclear Material Safety and Safeguards Inspection Reports."

b. Discussion

DOH and NYC performed 470 Priority 1, 2, 3, and 190 initial inspections, or a total of 660 inspections during the review period. Of these, 31 of the Priority 1, 2, or 3 inspections and 17 initial inspections, or 7.3 percent were conducted overdue. New York indicated that 17 inspections were conducted overdue because of pandemic impacts. The team noted that TI-003, "Evaluating the Impacts of the COVID-19 PHE as part of the Integrated Materials Performance Evaluation Program (IMPEP)," states, in part, that for inspections that exceed the scheduling window with overdue dates falling inside the defined time frame of the pandemic, the number of overdue inspections should be noted in the report but should not be counted in the calculation of overdue inspections described in [SA-101](#), provided that New York continues to maintain health, safety, and security. The team found that New York continued to maintain health, safety, and security. Therefore, the team did not include the 17 inspections that were impacted by the pandemic and determined that New York conducted a revised total of 31, or approximately 4.7 percent, inspections overdue.

DOH and NYC's inspection frequencies are the same, and in some cases, more frequent for similar license types in NRC's program. A sampling of 52 inspection reports indicated that 3 of the inspection findings were communicated to the licensees beyond New York's goal of 30 days after the inspection exit or 45 days after the team inspection exit. The overdue documentation was issued approximately 1 week beyond the goal of 30 days following the inspection in each case.

The team reviewed DOH and NYC reciprocity inspections and determined that New York conducted reciprocity inspections in a performance-based, risk-informed manner, consistent with the guidance in IMC 2800. New York DOH and NYC inspected 14.8 percent of candidate reciprocity licensees in 2018 (4 out of 27), 26.3 percent in 2019 (5 out of 19), 11.7 percent in 2020 (2 out of 17), 42.3 percent in 2021 (11 out of 26), and 27.2 percent so far in 2022 (3 out of 11). New York DOH and NYC stated that the pandemic adversely affected their ability to perform additional reciprocity inspections in 2020. TI-003 states, in part, that reciprocity inspections conducted in a manner that differs from the criteria specified in IMC 2800 should not be considered by the IMPEP team while establishing the overall indicator rating, provided that the Program continues to maintain health, safety and security. The team found that New York continued to maintain health, safety, and security. Therefore, the reduced number of reciprocity inspections conducted in 2020 was not factored into the overall performance indicator rating.

New York DEC issues permits to 28 facilities for air effluent, water effluent, and land burial sites. All facilities that have a permit from the DEC also have a license with the DOH. The focus of the inspections conducted by the DEC is solely on environmental discharges and the inspection frequencies are not based on the NRC's IMC 2800. Instead, the inspection frequencies are based on the quantity of environmental discharges. The DEC performed 86 permit inspections since the 2018 IMPEP review. All were conducted on time, or ahead of the required inspection date. Inspection of permits is performed at a frequency determined by RCPS policy, based on the quantity of effluent authorized for release by the permit. Permittees are required to submit an annual report to the DEC which documents their effluent release to ensure they remain under the required limits. Documentation for six permit inspections was reviewed, and results of all were issued within 30 days after the inspection exit. Reciprocity inspections are not applicable to the DEC.

c. Evaluation

The team determined that, during the review period, New York met the performance indicator objectives listed in Section 3.2.a. Based on the criteria in MD 5.6, the team recommends that New York's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.3 Technical Quality of Inspections

Inspections, both routine and reactive, provide reasonable assurance that licensee activities are carried out in a safe and secure manner. Accompaniments of inspectors performing inspections and the critical evaluation of inspection records are used to assess the technical quality of an inspection program.

a. Scope

The team used the guidance in [SA-102](#), "Reviewing the Common Performance Indicator: Technical Quality of Inspections," and evaluated New York's performance with respect to the following performance indicator objectives:

- Inspections of licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each inspector to assess performance and assure consistent application of inspection policies.
- For Programs with separate licensing and inspection staffs, procedures are established and followed to provide feedback information to license reviewers.
- Inspection guides are compatible with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

b. Discussion

The team evaluated inspection reports and enforcement documentation and interviewed inspectors involved in 58 materials inspections conducted during the review period, which included 28 DOH, 24 NYC, and 6 DEC reports. The team reviewed casework for inspections conducted by 21 current and former inspectors and covered medical, industrial, commercial, academic, research, service licenses and effluent discharge inspections.

Team members also conducted 10 DOH, NYC, and DEC in-person materials inspector accompaniments. The inspector accompaniments are identified in Appendix B. The team found that inspectors were well-prepared, thorough, and assessed the impact of licensed activities with respect to health, safety, and security. Inspectors observed the use of radioactive materials whenever possible. During interviews of licensee staff, inspectors used open ended questions, and were able to develop a basis of confidence that radioactive materials were being used safely and securely. Any findings observed were brought to the licensee's attention at the time of the inspection and again to the licensee's management during the inspection on-site exit meeting. All findings and conclusions were well-founded and documented. The team accompanied one DEC effluent inspector. During the accompaniment, the inspector demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted a performance-based inspection.

The team found that NYC's and DEC's performance of inspector accompaniments was acceptable; however, a review of DOH's performance of supervisory accompaniments found that DOH did not perform annual supervisory accompaniments for all inspectors during the review period. DOH performed: 8 supervisory accompaniments in 2018, 14 in 2019, 0 in 2020, 5 in 2021, and 2 prior to the 2022 IMPEP review. DOH stated that the pandemic significantly limited their ability to perform inspector accompaniments for 2020 and 2021. Temporary Instruction TI-003 states, in part, that those supervisory accompaniments not performed due to circumstances associated with the pandemic, should not be considered by the IMPEP team while establishing the overall indicator rating, provided that the Program continues to maintain health, safety and security. The team found that New York continued to maintain health, safety, and security. Therefore, the reduced number of inspector accompaniments conducted in 2020 and 2021 were not factored into the overall performance indicator rating.

The team determined that NYC and the DEC had an adequate supply of calibrated survey instruments to support the inspection program. However, for the DOH, survey instruments had not been calibrated, due to limited funding, for most of 2019, all of 2020 and 2021, and early 2022. The DOH only began to do limited calibrations of survey instruments in April 2022. During this time, the DOH was unable to make independent measurements using their own equipment. Staff informed the team that they used their uncalibrated equipment to determine the presence of radiation, but if they discovered an issue related to dose, they would not cite it because they didn't have a calibrated survey instrument to use. On occasion they would also use the licensee's survey instruments for surveys when they could.

c. Evaluation

The team determined that, during the review period, New York met the performance indicator objectives listed in Section 3.3.a., except:

- The DOH did not have an adequate supply of calibrated survey instruments available to support their inspection program.

To ensure the DOH has an adequate supply of calibrated survey instruments, the team recommends that:

- The DOH take steps necessary to ensure the adequate supply of calibrated survey instruments are available to support their inspection program.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommends that New York's performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.4 Technical Quality of Licensing Actions

The quality, thoroughness, and timeliness of licensing actions can have a direct bearing on public health and safety, as well as security. An assessment of licensing procedures, implementation of those procedures, and documentation of communications and associated actions between the Agreement State's licensing staff and regulated community is a significant indicator of the overall quality of the licensing program.

a. Scope

The team used the guidance in [SA-104](#), "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated New York's performance with respect to the following performance indicator objectives:

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Essential elements of license applications have been submitted and elements are consistent with current regulatory guidance (e.g., pre-licensing guidance, Title 10 *Code of Federal Regulation* (CFR) Part 37, financial assurance, etc.).
- License reviewers, if applicable, have the proper signature authority for the cases

- they review independently.
- License conditions are stated clearly and can be inspected.
 - Deficiency letters clearly state regulatory positions and are used at the proper time.
 - Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
 - Applicable guidance documents are available to reviewers and are followed (e.g., NUREG-1556 series, pre-licensing guidance, regulatory guides, etc.).
 - Licensing practices for Risk-Significant Radioactive Materials (RSRM) are appropriately implemented including the physical protection of Category 1 and Category 2 quantities of radioactive material (10 CFR Part 37 equivalent).
 - Documents containing sensitive security information are properly marked, handled, controlled, and secured.

b. Discussion

During the review period, the combined New York Agreement State Program collectively completed 3573 total licensing actions with 738 of them completed by NYC and 2835 completed by the DOH. The team evaluated 47 licensing actions performed by 13 current and former license reviewers. Actions selected for review included 11 new applications, 18 amendments, 11 renewals, and 7 terminations. Several of the actions reviewed included licenses subject to Part 37 requirements. The team evaluated file casework which included the following license types and actions: broad scope, medical diagnostic and therapeutic, accelerator, commercial manufacturing and distribution, industrial radiography, research and development, academic broad scope, nuclear pharmacy, gauges, panoramic and self-shielded irradiators, service providers, waste brokers, well logging, decommissioning actions, financial assurance, changes of ownership, and bankruptcies.

The team noted that both NYC and the DOH's licensing actions were of acceptable technical quality with sufficient attention to health, safety, and security issues. License tie-down conditions were stated clearly and were supported by information contained in the file. Deficiency letters clearly stated regulatory positions were used at the proper time and identified deficiencies in the licensees' documents.

During the review period, the DEC completed 75 permitting actions. The team reviewed eight permitting actions, including one new air permit, one renewal, one termination, three modifications and two variances (one of which stemmed from an inspection). The team determined the DEC's actions were also of acceptable technical quality with sufficient attention to health, safety, and security issues. The DEC RCPS staff used staff-developed guidance provided to applicants for typical air permits, and a separate guidance document for cyclotron applicants for an air permit. Applications are reviewed and signed by a supervisor.

The team assessed New York's implementation of the NRC's "Checklist to Provide a Basis for Confidence that Radioactive Material will be used as Specified on the License," issued by NRC in August 2018. The team determined that New York had implemented the essential elements of the most recent pre-licensing guidance. Based on the new applications and transfer of control licensing actions reviewed, the team determined that in all cases, the assigned license reviewer used the pre-licensing guidance appropriately prior to the issuance of the license.

The team reviewed New York's implementation of the RSRM checklist. The team found that the objectives of the RSRM checklist were being met. The team determined that

licensees requiring financial assurance had adequate funding plans and remained in compliance with financial assurance requirements throughout the review period. Financial assurance instruments were appropriately protected from loss or theft.

c. Evaluation

The team determined that, during the review period, New York met the performance indicator objectives listed in Section 3.4.a. Based on the criteria in MD 5.6, the team recommends that New York's performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.5 Technical Quality of Incident and Allegation Activities

The quality, thoroughness, and timeliness of response to incidents and allegations of safety concerns can have a direct bearing on public health, safety, and security. An assessment of incident response and allegation investigation procedures, actual implementation of these procedures internal and external coordination, timely incident reporting, and investigative and follow-up actions, are a significant indicator of the overall quality of the incident response and allegation programs.

a. Scope

The team used the guidance in [SA-105](#), "Reviewing the Common Performance Indicator: Technical Quality of Incident and Allegation Activities," and evaluated New York's performance with respect to the following performance indicator objectives:

- Incident response and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site responses are performed when incidents have potential health, safety, or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC Headquarters Operations Center for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the Nuclear Material Events Database (NMED) and closed when all required information has been obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified within 30 days of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

During the review period, 140 radioactive materials incident reports were reported to New York, including: 128 incidents to the DOH, 12 incidents to NYC, and no incidents to the DEC. The team evaluated 67 of the radioactive materials incidents, including: 55 incidents reported to the DOH and 12 incidents reported to NYC. These included events involving lost or stolen radioactive materials, potential overexposures, medical events, damaged equipment, and leaking sources. The team found that New York dispatched

inspectors for onsite follow-up when the event was determined to be risk significant and required a rapid onsite follow-up.

The team reviewed New York's implementation of its incident and allegation processes, including written procedures for handling incident and allegation response, file documentation, and notification of incidents to the NRC Headquarters Operations Officer (HOO) for inclusion in the Nuclear Material Events Database (NMED) database. When a notification of an incident or allegation is received, New York managers review the information received, determine its health and safety significance, and decide on the appropriate level of initial response. The team found that inspectors properly evaluated each event, interviewed involved individuals, and while NYC thoroughly documented findings, the team noted that the DOH was not always consistent in documenting findings. The team further noted that while there had been no events occurring under the jurisdiction of the DEC over this review period, that the DEC did not have procedures addressing both incident and allegation follow-up.

The team also evaluated New York's reporting of incidents to the NRC's Headquarters Operations Center (HOC). The team found that in each case requiring HOC notification, New York reported the incidents within the required time frame. The team also evaluated whether New York did not report any required incidents to the HOC. The team did not identify any missed reporting requirements.

During the review period, 28 allegations were received by New York, including: 19 DOH allegations, 5 NYC allegations, and 4 DEC allegations. The team evaluated all 28 allegations including 13 allegations that the NRC referred to New York, during the review period. The team found that New York took prompt and appropriate action in response to the concerns raised. The allegations reviewed were closed, the concerned individuals were notified of the actions taken, and the concerned individual's identities were protected in accordance with State law.

c. Evaluation

The team determined that, during the review period, New York met the performance indicator objectives listed in Section 3.5.a., except for:

- Incident response and allegation procedures at the DEC were not in place or followed.

Because the DEC has no procedures for addressing both incident and allegation follow-up, and a lack of adequate guidance has the potential to result in an inconsistent and inappropriate response to events or improper follow-up on allegations from concerned individuals, the team recommends that:

- The DEC develop incident response and allegation procedures and train staff on the new procedures.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommended that New York's performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Legislation, Regulations, and Other Program Elements, (2) Sealed Source and Device (SS&D) Evaluation Program, (3) LLRW Disposal Program, and (4) Uranium Recovery Program. The NRC retains regulatory authority for a uranium recovery program; therefore, only the first three non-common performance indicators applied to this review.

4.1 Legislation, Regulations, and Other Program Elements

State statutes should authorize the Agreement State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the State's agreement with the NRC. The statutes must authorize the State to promulgate regulatory requirements necessary to provide reasonable assurance of adequate protection of public health, safety, and security. The State must be authorized through its legal authority to license, inspect, and enforce legally binding requirements, such as regulations and licenses. The NRC regulations that should be adopted by an Agreement State for purposes of compatibility or health and safety should be adopted in a time frame so that the effective date of the Agreement State requirement is not later than 3 years after the effective date of the NRC's final rule. Other program elements that have been designated as necessary for maintenance of an adequate and compatible program should be adopted and implemented by an Agreement State within 6 months following NRC designation. A Program Element Table indicating the Compatibility Categories for those program elements other than regulations can be found on the NRC Web site at the following address: <https://scp.nrc.gov/regtoolbox.html>.

a. Scope

The team used the guidance in [SA-107](#), "Reviewing the Non-Common Performance Indicator: Legislation, Regulations, and Other Program Elements," and evaluated the State's performance with respect to the following performance indicator objectives. A complete list of regulation amendments can be found on the NRC website at the following address: <https://scp.nrc.gov/regtoolbox.html>.

- The Agreement program does not create conflicts, duplications, gaps, or other conditions that jeopardize an orderly pattern in the regulation of radioactive materials under the Atomic Energy Act, as amended.
- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted no later than 3 years after the effective date of the NRC regulation.
- Other program elements, as defined in [SA-200](#), that have been designated as necessary for maintenance of an adequate and compatible program, have been adopted and implemented within 6 months of NRC designation.
- The New York statutes authorize the New York to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement.
- The New York is authorized through its legal authority to license, inspect, and enforce legally binding requirements such as regulations and licenses.
- Sunset requirements, if any, do not negatively impact the effectiveness of the New York's regulations.

b. Discussion

New York became an Agreement State on October 15, 1962. There are three agencies regulating ionizing radiation in the State of New York: DOH, NYC, and DEC. The DOH legislative authority to administer its portion of the Agreement is granted in New York Public Health Law, Article 2, Title II, Sections 201 and 225. The NYC regulatory authority is delegated from the DOH under Part 16 of the New York State Health Sanitary Code which provides for delegation to local governments when covering greater than two million individuals. The local legislative authority for NYC's portion of the Agreement State program is granted in Chapter 22 of the New York City Charter, specifically Section 556(c)(11). This regulatory authority is implemented by NYC through Article 175 of the New York City Health Code. For the DEC, Articles 1, 3, 17, 19, 29, and 37 of the Environmental Conservation Law provide the authority to implement its radiation control program. The DEC regulations are found in six NYCRR Chapter IV, Subchapter C, Parts 380, 381, 382 and 383, and apply to environmental releases and disposal of radioactive material. The DEC requires a permit for environmental releases of radioactive material, including releases to ground or surface water, releases to the air above a specified threshold, incineration, and environmental studies. These regulations also cover the transportation of LLRW shipments into, within, and through New York State. All three agencies stated no legislation affecting the radiation control program was passed during the review period.

Each of the agencies have administrative rulemaking processes, which vary in length, for drafting to finalizing a rule. The DOH and DEC have similar regulation adoption processes which take approximately 2 to 3 years. The process for NYC takes approximately 6 months to 1 year. The public, NRC, other agencies, and potentially impacted licensees and registrants are offered an opportunity to comment during the process for each agency. The team noted that none of agencies have rules and regulations that are subject to "sunset" laws.

For the DOH, after proposed regulations are developed within the Bureau, it takes approximately 1 year to complete internal reviews before transmitting a proposed rule to the Governor's office for review and approval. The Governor's office can take up to 2 years to complete its review and approval before being sent to the Public Health Council for review. Once the proposed rules are reviewed by the Public Health Council, they are published in the New York State Register for a mandatory 45-day public comment period. When the public comment period is completed, and if there are no substantive changes needed, the proposed rules and resolution of comments are reviewed by the Public Health Council and published in the State Register as final rules with an effective date.

The DEC follows a similar process to the DOH; however, there is no Public Health Council or Environmental Review Board involvement. At the DEC, rules are developed in conjunction with a program attorney. This process can take anywhere from 3 months to a year for more complex rules. Once the rules are developed, the DEC Office of General Counsel performs a review which can take about 1 to 2 months. After that, the proposed rules go to the DEC Executive Commissioner for review. After leaving the DEC, the proposed rules go to the Governor's Office for review. The proposed rules then go out for a 30 to 90-day public comment period during which time a public hearing is held. After the public comment period and comments are resolved, the DEC has 1 year from the public hearing date to file the final rules with the New York Department of State.

The NYC develops a regulation package and sends it to the New York City mayor's office and the City Law Department for review and approval. Once the rules are approved by the mayor's office and the City's Law Department, they are placed on the Department's Board of Health agenda. The Board of Health meets quarterly in March, June, September, and December. The first time that it is presented with proposed rules, the Board of Health determines whether to approve them for publication on the City's proposed rules website and in the City Record (a newspaper which publishes City agencies proposed and adopted rules) at that point, the rules are open for public comment. Once the Board approves for publication, the proposed rule is also disseminated to various stakeholders, the media, and City officials. The agency also holds a public hearing on the proposed rule, usually about 30 days after the Board has approved it for publication.

During the review period five regulation amendments became due for adoption for both the DOH and NYC, with two of these regulation amendments applicable to the DEC. At the time of the review, the DOH and the DEC regulation amendments were overdue for adoption. In addition, the DOH had 10 regulations that were overdue for adoption from the 2018 IMPEP review, while the DEC had 7.

The DOH is working on incorporating overdue regulations amendments by reference and submitted amendments to their regulations for overdue Regulation Amendment Tracking System Identification Numbers (RATS IDs) identified during the previous IMPEP. In a letter dated September 13, 2018, the DOH submitted updates to regulations for overdue RATS IDs identified during the previous IMPEP review. The NRC's compatibility review identified 21 comments related to compatibility that the DOH needed to address in their final regulations to be compatible. The DOH incorporated the NRC's comments into their draft final regulations. These amendments as well as the new amendments due for adoption have been developed and awaiting the DOH management approval since 2021. The DOH implemented license conditions to account for regulations that are overdue. The DEC is addressing the overdue regulation amendments by incorporating regulations by reference. The DEC continues working with their general counsel to resolve the internal comments. However, the DEC has not made progress in getting the overdue amendments through their process for promulgating regulations. The NYC adopted NRC regulations by reference and the rules became final in May 2019. Although the final rule included amendments that were due during this review period, NYC had not submitted those amendments to the NRC at the time of the review. It should be noted that the Governor's office stopped reviewing rules that were unrelated to the pandemic response. TI-003 states, in part, that NRC regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted more than 3 years after the effective date of the NRC regulation, due to the State's legislative process being delayed or adversely affected due to the pandemic should be noted in the report but should not be considered by the team in the overall indicator rating, provided that the Program continues to maintain health, safety and security. The team determined that that New York continued to maintain health, safety, and security using license conditions.

The Team also reviewed other program elements designated as necessary for the maintenance of an adequate and compatible program with NRC. The other program elements included, licensing guidance, inspection guidance, and new or revised medical guidance. Program elements require adoption by the New York within 6 months of NRC issuance. The team determined that New York implemented these program elements (checklists, procedures) by reference except for the DEC which did not have incident and allegation procedures.

c. Evaluation

The team determined that, during the review period, New York met the performance indicator objectives listed in Section 4.1.a, except for:

- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were not adopted no later than 3 years after the effective date of the NRC regulation.

The 2022 IMPEP team found that the DOH had 5 amendments overdue for adoption and the DEC had 2 amendments overdue for adoption during this review period. In addition, the team found that the DOH had 10 amendments overdue for adoption and the DEC had 7 amendments that remain overdue from the 2018 IMPEP review. Although the DOH has started the process of adopting NRC regulations by reference, the regulations have been undergoing internal review since 2020. The DEC has developed the rules that were due for adoption, but these amendments have not been made final.

The 2018 IMPEP team made the following recommendation:

- New York make appropriate regulatory changes to resolve NRC-generated comments as noted in regulation review letters and adopt NRC regulations in accordance with the current NRC policy on adequacy and compatibility.

The 2022 IMPEP team determined that New York made progress on resolving NRC-generated comments and recommends that the first part of the recommendation be closed. The 2022 IMPEP team also found that the DOH and the DEC still have overdue regulations. As a result, the team recommends that the second part of the 2018 IMPEP recommendation be modified as follows:

- The DOH and the DEC establish processes to expedite the review and adoption of NRC regulations in accordance with the current NRC policy on adequacy and compatibility and adopt all overdue regulations by the next IMPEP review.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommends that New York's performance with respect to the indicator, Legislation, Regulations, and Other Program Elements, be found unsatisfactory.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.2 SS&D Evaluation Program

Adequate technical evaluations of SS&D designs are essential to ensure that SS&Ds will maintain their integrity and that the design is adequate to protect public health and safety. NUREG-1556, Volume 3, "Consolidated Guidance about Materials Licenses: Applications for Sealed Source and Device Evaluation and Registration," provides information on conducting the SS&D reviews and establishes useful guidance for teams. In accordance with MD 5.6, three sub-elements: Technical Staffing and Training, Technical Quality of the Product Evaluation Program, and Evaluation of Defects and Incidents Regarding SS&D's, are evaluated to determine if the SS&D program is satisfactory. Agreement States with authority for SS&D evaluation programs who are not

performing SS&D reviews are required to commit in writing to having an SS&D evaluation program in place before performing evaluations.

a. Scope

The team used the guidance in [SA-108](#), “Reviewing the Non-Common Performance Indicator: Sealed Source and Device Evaluation Program,” and evaluated New York’s performance with respect to the following performance indicator objectives:

Technical Staffing and Training

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- Qualification criteria for new technical staff are established and are being followed or qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- Management is committed to training and staff qualification.
- Individuals performing SS&D evaluation activities are adequately qualified and trained to perform their duties.
- SS&D reviewers are trained and qualified in a reasonable period of time.

Technical Quality of the Product Evaluation Program

- SS&D evaluations are adequate, accurate, complete, clear, specific, and consistent with the guidance in NUREG-1556, Volume 3.

Evaluation of Defects and Incidents

- SS&D incidents are reviewed to identify possible manufacturing defects and the root causes of these incidents.
- Incidents are evaluated to determine if other products may be affected by similar problems. Appropriate action and notifications to the NRC, Agreement States, and others, as appropriate, occur in a timely manner.

b. Discussion

Technical Staffing and Training

New York had four fully qualified staff performing SS&D reviews during the review period. The two newest reviewers came from within the program, had received training in accordance with the training plan in place at that time, and New York had considered them fully qualified even though the team’s review found that the training program used to train them was not compatible with NRC IMC 1248. The current supervisor is also an experienced and qualified SS&D reviewer. One other fully qualified individual retired in June 2022. New York has no plans to refill that position so there are currently no vacancies within the SS&D program.

The team evaluated New York’s SS&D training and qualification program and found that New York’s training and qualification procedure was not compatible with IMC 1248 Appendix D, as it did not fully meet the training requirements. Specifically, it was missing the self-study documentation, on-the-job training documentation, and it did not include industry standards. After discussing this with New York, they revised their training procedure and provided the final approved revision to the team on July 28, 2022. The

team reviewed the revised procedure and found that it still was not fully compatible with IMC 1248 Appendix D. The revised procedure included the self-study and on-the-job training requirements; however, it still did not include the required industry standards. When this was discussed with the staff, DOH staff informed the team that they did not have access to the required industry standards and requested copies of ISO 2919 Radiation protection – Sealed radioactive sources – General requirements and classification, and ANSI/HPS N43.6-2007 Sealed Radioactive Sources – Classification. The team provided copies of the industry standards for consideration. The qualification documentation provided by management also did not include staff and management signatures documenting that training requirements had been completed. The team discussed the importance of properly documenting the training requirements for SS&D reviewers to ensure that documentation supports both the work they do, and the qualifications necessary to perform those tasks.

Technical Quality of the Product Evaluation

The DOH has 19 licensees holding SS&D registrations within the National SS&D Registry (Registry). Only three licensees are currently active license holders in New York and 16 are no longer licensees.

The DOH has 53 total registrations in the Registry of which 44 are identified as active and nine are identified as inactive. The three current licensees account for 15 of the actual active registrations. At the time of the review, the DOH had not inactivated SS&D registry entries for products that are no longer manufactured or distributed by New York licensees.

The team also identified five amendments that had not yet been issued pending non-related licensing actions, each involving static eliminators. Each of the completed actions, all of which involved a single licensee, had been signed by both the primary reviewer and the concurrence reviewer on July 14, 2022, just prior to the onsite review, so they were included in this review. The team's review of staff actions was limited, and they were only able to evaluate one amendment processed during the review period.

The team noted that the DOH has adopted NRC's NUREG-1556, Volume 3, Rev 2, (NUREG) as its standard operating procedure for performing SS&D reviews. However, the team found that reviewers do not always follow the criteria in the NUREG when performing reviews. The team identified several deviations in the content of the registrations specifically in how the registrations had been formatted when compared to the NUREG. The team found that the technical quality of the registrations reviewed was not accurate, complete, clear, specific, nor in alignment with the NUREG. Some of these deviations included the following:

- The manufacturer/distributor name was not updated on the amendments where it was appropriate to do so.
- Labeling was not updated with the name change in at least one amended SS&D being held.
- The units of activity were not shown in Gray or Becquerel.
- The principal use code was not used or was used improperly.
- Highlighting in bold was not used or was used improperly. Specifically, there was an example where the "Labeling Section" was in bold to highlight changes as required by the NUREG, but no changes had occurred. Another example was where the "Correction Section" should have been in bold to highlight a change in the Prototype Testing section to signify an ISO 2919 temperature class reduction.

- The header did not indicate that the registration was an amendment.
- The concurrence reviewer (the supervisor) signed off on all the work errors.

The above noted deviations in both the content and formatting of the registrations were found in nearly all cases reviewed. The lack of consistency and adherence to NUREG-1556, Volume 3, requirements directly affect the clarity of the SS&D product evaluation that license reviewers rely on to license the possession and use of a product. The team noted that in more than a few, but less than most of the registrations, the DOH did not summarize the product evaluation and provide license reviewers with adequate information to appropriately license possession and use of the product.

Evaluation of Defects and Incidents Regarding SS&Ds

The team evaluated 45 NMED reported events made by the DOH over the review period and found that no incidents related to defects involving devices registered by the DOH had been reported during the review period. The team further discussed the importance of periodically reviewing NMED reports to capture generic issues that may arise related to SS&D related incidents with the DOH staff.

c. Evaluation

The team determined that, except as noted below, during the review period New York met the performance indicator objectives listed in Section 4.2.a except for:

- Individuals performing SS&D evaluation activities were not adequately qualified and trained to perform their duties, due to lack of adequate procedures.
- Some SS&D registration sheets were not adequate, accurate, complete, clear, specific, or and consistent with the guidance in NUREG-1556, Volume 3.

To address issues with New York's SS&D training and qualification program, the 2022 IMPEP team made the following recommendations that the DOH:

- Review, revise, and update the SS&D training and qualification procedures to ensure the essential objectives of Appendix D, of IMC 1248, including training on the appropriate industry codes and standards.

To address issues with the technical quality of product evaluation, the team recommends that:

- New York develop a mechanism to ensure reviewers follow the applicable guidance in NUREG-1556, Volume 3 when developing new or amending existing registrations.
- New York close inactive SS&D registrations and identify them as inactive in the Registry.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommended that New York's performance with respect to the indicator, SS&D Evaluation Program, be found satisfactory, but needs improvement.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.3 LLRW Disposal Program

The objective is to determine if the State's LLRW disposal program is adequate to protect public health and safety, and the environment. Five sub-elements are used to make this determination: (1) Technical Staffing and Training, (2) Status of LLRW Inspection Program, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

a. Scope

The team used the guidance in [SA-109](#), "Reviewing the Non-Common Performance Indicator: Low-Level Radioactive Waste Disposal Program," and evaluated New York's performance with respect to the following performance indicator objectives:

Technical Staffing and Training

- Qualified and trained technical staff are available to license, regulate, control, inspect, and assess the operation and performance of the LLRW disposal facility.
- Qualification criteria for new LLRW technical staff are established and are followed or qualification criteria will be established if new staff members are hired.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing the LLRW licensing and inspection programs.
- Management is committed to training and staff qualification.
- Individuals performing LLRW licensing and inspection activities are adequately qualified and trained to perform their duties.
- LLRW license reviewers and inspectors are trained and qualified in a reasonable period of time.

Status of LLRW Inspection Program

- The LLRW facility is inspected at prescribed frequencies.
- Statistical data on the status of the inspection program are maintained and can be retrieved.
- Deviations from inspection schedules are coordinated between LLRW technical staff and management.
- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections; or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Inspection findings are communicated to licensees in a timely manner.

Technical Quality of Inspections

- Inspections of LLRW licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items, non-compliances, and violations.
- Inspection findings lead to appropriate and prompt regulatory action.
- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each LLRW inspector to assess performance and assure consistent application of

- inspection policies.
- Inspection guides are consistent with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

Technical Quality of Licensing Actions

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Applicable LLRW guidance documents are available to reviewers and are followed.
- Essential elements of license applications have been submitted and elements are consistent with current NRC or Agreement State regulatory guidance for describing the isotopes and quantities used, qualifications of authorized users, facilities, equipment, locations of use, operating and emergency procedures, and any other requirements necessary to ensure an adequate basis for the licensing action.
- LLRW license reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License tie-down conditions are stated clearly and can be inspected.
- Deficiency letters clearly identify New York regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Licensing practices for RSRM are appropriately implemented including fingerprinting orders (10 CFR Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled, and secured.

Technical Quality of Incident and Allegation Activities

- LLRW incident response, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.
- On-site responses are performed when incidents have potential health, safety, or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC HOO for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the NMED and closed when required information is obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

New York State has two disposal areas that received low-level waste prior to the 1980's. The Cornell Radiation Disposal Site (RDS) located near Cornell University and the West Valley State-licensed Disposal Area (SDA) located in western New York. The RDS received very small amounts of laboratory waste and is managed under a Consent Order and New York Part 380 permit. A groundwater pump and treat system is used for chemical contaminants. Radiation releases and concentrations are monitored – the RDS is very low risk.

The SDA occupies approximately 61,000 m² (15 ac). From 1963 to 1975 approximately 68,000 m³ (2,400,000 ft³) of radioactive waste was disposed in near-surface trenches. Though the facility has not received waste in over 40 years, extensive monitoring is performed, and actions are necessary to prevent buildup of leachate in trenches and release of radioactivity to the environment. Small amounts of radioactive waste are generated and stored at the site because of monitoring and maintenance activities.

The regulatory oversight of the West Valley SDA by the DEC was provided by staff in Albany and staff in the DEC Region 9 located in Buffalo, New York. The regulatory oversight of the West Valley SDA by the DOH is provided by staff based in Albany and primarily involves licensing and inspection activities involving management of radioactive materials previously disposed and radioactive wastes generated from those previously disposed wastes. The separation of tasks between different state agencies adds to complexity in the regulation of low-level waste disposal in New York.

Technical Staffing and Training

During the review period, the DEC and the DOH had four staff supporting the LLRW Disposal Program on a part-time basis. The total level of effort equaled approximately 1.7 FTE, with approximately 1.5 FTE from the DEC Region 9 and 0.2 FTE from the DEC in Albany. The DOH contribution was near zero over the review period as they performed no inspections and only one small licensing amendment. During the review period, the DEC had one vacancy and that vacancy was filled with an internal candidate after approximately 8 months.

The DOH has inspection and licensing responsibilities for the West Valley SDA that involves radioactive materials except for effluents. The team found that the DOH did not have any significant licensing actions during the review period. Therefore, the review of the DOH staffing and training associated with the LLRW Disposal Program was included in the overall IMPEP review of staffing and training. Staffing for the LLRW Disposal Program during this review period was comparable to the previous IMPEP review period. At the end of the review period there were no vacancies for positions in the LLRW Disposal Program. Staff had a suitable combination of education and experience with most staff having graduate degrees in a science field. The staff working on the LLRW Disposal Program were all very experienced.

New York does not have a training program equivalent to NRC training requirements in the NRC's IMC 1248, Appendix E, and most staff and supervisors were not aware of refresher training requirements, or the guidance provided in IMC 1248, Appendix E. It was difficult for the team to obtain training and qualification records because response to the IMPEP questionnaire was incomplete and the LLRW Disposal Program is spread among three groups at different locations. However, the team was able to determine that the inspectors and the lead permit reviewer had taken training classes in inspection and health physics. The team also found that one staff member had not received any formal training during the review period. Most staff indicated the training requests were fulfilled. It is difficult for the staff to obtain approval for out of state travel for training. Management used the practice of hosting training classes to help meet the training needs of the staff.

Status of LLRW Disposal Inspection Program

The DEC Region 9 staff performed 13 inspections of the West Valley SDA, and the DEC Albany and Region 9 staff performed 4 inspections of the Cornell RDS during the IMPEP review period. The DEC staff completed the inspections in accordance with NRC

inspection frequencies. The DEC Region 9 inspectors communicated inspection findings by formal correspondence to the licensee within 30 days following completion of the inspection.

The DOH oversees the radiation protection aspects of the West Valley SDA via Radioactive Materials License No. C0382. No inspections were conducted by the DOH during the review period because in 2011, the DOH downgraded the priority of this facility from a Priority 1 to a Priority 5 reducing the inspection frequency from annual to every 5 years. The DOH last inspected the SDA in 2016, prior to the current IMPEP review. Assignment of a Priority 5 is not compatible with the required NRC inspection frequency of one year for LLRW storage and two years for LLRW burial.

During the NRC accompaniment of a DEC inspector at the West Valley SDA, the team identified a radiation protection concern associated with the licensee's use of a break area inside a LLRW storage area. This break area included a refrigerator, microwave, coffee machine, and picnic table. The break area had been used for several years, despite storing radioactive waste in the area since 2011. As a result of the team's observation, the DEC inspector raised the concern with the licensee and the licensee took immediate corrective action to close the break area. This concern highlights the need for inspections at the required frequency.

Technical Quality of Inspections

On June 28-30, 2022, the team accompanied a DEC Region 9 inspector at the West Valley SDA. Under the DEC Part 380 permit, environmental sampling and numerous disposal cell engineering and stabilization elements were observed.

The review team found of the 13 West Valley SDA inspections performed, only two inspection reports were signed by the inspector and reviewed and signed by the supervisor. The inspector indicated they believed the reports were final even if they were not signed. There were communication challenges between the DEC Region 9 and the DEC Albany arising from new staff and unclear direction with respect to responsibilities. Management does not have a procedure for completing and filing inspection reports. The team found that the West Valley SDA inspection reports reviewed were thorough and of adequate technical quality.

The review team found of the four Cornell RDS inspections performed, three of the inspection reports were not signed by the inspector or signed by the supervisor. Management does not have a procedure for completing and filing inspection reports. The remaining inspection report contained substantial errors. That report was draft and of inadequate quality.

The supervisor is required to accompany each inspector annually and evaluate the inspector's knowledge, skills, and capabilities. The DEC management does not generate records to document inspector accompaniments or inspector evaluations. The inspection reports indicated who attended the inspection with the inspector. Review of the two completed inspection reports show the supervisor was present on one inspection, but it did not state the inspector was being evaluated. Because the information reviewed was not a signed final record, the IMPEP team cannot conclude that inspector accompaniments were completed at the required frequency. Review of the unsigned reports indicate the supervisor was present on some inspections, though not at the annual frequency required by the NRC.

Technical Quality of Licensing Actions

The LLRW staff regulate the Cornell RDS through a Consent Order to remediate groundwater contamination with chemicals and New York State Part 380 permit. The site is very low radiological risk and has appropriate permitting, inspection, and regulatory oversight.

Different groups within New York state regulate the activities at SDA. The DOH issued a Radioactive Materials License (No. C0382) for the West Valley SDA. The license was amended to change the Radiation Safety Officer (RSO). There were no significant licensing actions completed during the IMPEP period for that license that could be reviewed by the IMPEP team for timeliness and quality. The license is scheduled to be renewed during the next IMPEP review period. Region 9 of the DEC regulate effluents at the SDA through a Part 380 permit. A renewal application for that permit was filed on July 9, 2019, and a new permit was issued January 2020. Region 9 staff reviewed and appropriately applied tiedown conditions. The Region 9 staff were providing significant oversight of surficial geology concerns at the site – which is the most risk significant aspect of the current operation of the site. Staff did not have review procedures for land burial permits. Staff were relying on knowledge of the site and experience. The licensee generates substantial amounts of monitoring information which is reviewed by the LLRW staff during inspections. That information could be more thoroughly reviewed outside of the inspection process and the results of the review could be documented to improve knowledge management.

Technical Quality of Incident and Allegation Activities

The LLRW staff received no incidents over the review period. There was one potential allegation forwarded to the program by the NRC that was determined to not pertain to the West Valley radioactive waste disposal program. As part of the permitting process the licensee is required to report to the LLRW staff if certain conditions occur (e.g., radioactivity in environmental media exceeds certain thresholds). However, the LLRW staff did not have procedures or processes to respond to incidents and allegations.

c. Evaluation

The team determined that during the review period New York met the performance indicator objectives listed in Section 4.3.a, except for:

- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Qualification criteria for new LLRW technical staff are established and are followed or qualification criteria will be established if new staff members are hired.
- LLRW incident response, and allegation procedures are in place and followed.
- The LLRW facility is inspected at prescribed frequencies.
- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each LLRW inspector to assess performance and assure consistent application of inspection policies.

To ensure New York's LLRW Disposal Program training program is consistent with the objectives of the NRC's IMC 1248, Appendix E, are adopted, the team is recommending:

- New York review and update all aspects of the LLRW Disposal Program training and

qualifications to adopt the essential objectives in IMC 1248, Appendix E, including guidance and refresher training requirements.

To address licensing, inspection, and incident and allegation documentation issues the team is recommending:

- New York develop, train staff on, and implement procedures for the generation, approval, distribution, management, and retention of the LLRW Disposal Program licensing, inspection, and incident and allegation documentation.

Based on the IMPEP evaluation criteria in MD 5.6, the team recommends that New York's performance with respect to the indicator, LLRW Disposal Program, be found satisfactory, but needs improvement.

d. MRB Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

5.0 SUMMARY

The team found New York's performance to be satisfactory for five of the eight performance indicators: Technical Staffing and Training, Status of Materials Inspection Program, Technical Quality of Inspections, Technical Quality of Licensing Actions, and Technical Quality of Incident and Allegation Activities. The team found New York's program to be satisfactory but needs improvement for the following two performance indicators: SS&D Evaluation Program and the LLRW Disposal Program. The team found New York unsatisfactory for the performance indicator Legislation, Regulations, and Other Program Elements. It should be noted that the Legislation, Regulations, and Other Program Elements performance indicator was also found unsatisfactory over the last four IMPEP reviews, in addition to the 2022 IMPEP review recommendation.

The 2022 IMPEP team recommends closing the 2018 Technical Quality of Inspections performance indicator recommendation and modifying the 2018 IMPEP review LROPE indicator recommendation as follows:

- The DOH and the DEC establish processes to expedite the review and adoption of NRC regulations in accordance with the current NRC policy on adequacy and compatibility and adopt all overdue regulations by the next IMPEP review.

The team also made seven new recommendations:

- 1) New York take steps necessary to ensure the adequate supply of calibrated survey instruments are available to support their inspection program.
- 2) New York develop incident and allegation response procedures and train staff on the new procedures.
- 3) Review, revise, and update the SS&D training and qualification procedures to ensure the essential objectives of Appendix D, of IMC 1248, including training on the appropriate industry codes and standards.

- 4) New York develop a mechanism to ensure reviewers follow the applicable guidance in NUREG-1556, Volume 3, when developing new or amending existing registrations.
- 5) New York close inactive SS&D registrations and identify them as inactive in the Registry.
- 6) New York review and update all aspects of the LLRW Disposal Program training and qualifications to adopt the essential objectives in IMC 1248, Appendix E, including guidance and refresher training requirements.
- 7) New York develop, train staff on, and implement procedures for the generation, approval, distribution, management, and retention of the LLWR Disposal Program licensing, inspection, and incident and allegation documentation.

Accordingly, the team recommends that the New York Agreement State Program be found adequate to protect public health and safety but needs improvement.

Since the team noted that New York's program has the potential to create gaps, conflicts, duplication, or other conditions that could jeopardize an orderly pattern in the collective national effort to regulate agreement materials, the team also recommends that the New York Agreement State Program be found not compatible with the NRC's program.

Based on the results of the current IMPEP review and program decline, the team recommends that the New York Agreement State Program be placed on a period of heightened oversight.

The team recommends that a follow-up IMPEP review for the less than satisfactory indicators and a periodic meeting for the satisfactory indicators be conducted in approximately 2 years. Based on the results of the Follow-Up IMPEP review, the Management Review Board Chair will determine the timing of the next full IMPEP review.

LIST OF APPENDICES

Appendix A	IMPEP Review Team Members
Appendix B	Inspector Accompaniments

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Areas of Responsibility
Randy Erickson, NRC Region IV	Team Leader Technical Quality of Incident and Allegation Activities (NYC)
Binesh Tharakan, NRC Region IV	Technical Staffing and Training
Farrah Gaskins, NRC Region I	Legislation, Regulations and Other Program Elements Inspector Accompaniments
Brian Goretzki, Arizona	Status of Materials Inspection Program Technical Quality of Inspections Inspector Accompaniments
Nancy Stanley, New Jersey	Technical Quality of Licensing Actions
Shirley Xu, NMSS	Technical Quality of Incident and Allegation Activities (DOH)
Jim Pate, Louisiana	Sealed Source and Device Evaluation Program
David Esh, NMSS	Low-Level Radioactive Waste Disposal Program
Kristen Schwab, Washington	Low-Level Radioactive Waste Disposal Program Inspector Accompaniments

APPENDIX B

INSPECTOR ACCOMPANIMENTS

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

Accompaniment No.: 1	License No.: 74-3030-01
License Type: <i>Academic</i>	Priority: 3
Inspection Date: 03/07/2022	Inspector's initials: MR

Accompaniment No.: 2	License No.: 91-3310-01
License Type: <i>Medical Institution / WD/HDR</i>	Priority: 2
Inspection Date: 03/08/2022	Inspector's initials: JL

Accompaniment No.: 3	License No.: 91-2902-01
License Type: <i>Medical Institution / WD Required</i>	Priority: 3
Inspection Date: 03/09/2022	Inspector's initials: OA

Accompaniment No.: 4	License No.: 91-3684-01
License Type: <i>Medical Institution / WD not required</i>	Priority: 5
Inspection Date: 03/10/2022	Inspector's initials: KN

Accompaniment No.: 5	License No.: 5-3A
License Type: <i>Academic Broad Scope A</i>	Priority: 3
Inspection Date: 06/06/2022	Inspector's initials: AM

Accompaniment No.: 6	Permit No.: 7-3126-001
License Type: <i>Air Emissions</i>	Priority: 2
Inspection Date: 06/07/2022	Inspector's initials: VM

Accompaniment No.: 7	License No.: 3726
License Type: <i>Medical Institution / WD not required</i>	Priority: 5
Inspection Date: 06/08/2022	Inspector's initials: RB

Accompaniment No.: 8	License No.: 5698
License Type: <i>HDR</i>	Priority: 2
Inspection Date: 06/09/2022	Inspector's initials: NK

Accompaniment No.: 9	License No.: 5770
License Type: <i>Medical Institution / WD not required</i>	Priority: 5
Inspection Date: 06/28/2022	Inspector's initials: AH

Accompaniment No.: 10	Permit No.: 9-0422-00011/00011
License Type: <i>LLRW/DEC Part 380 Permit</i>	Priority: 1
Inspection Date: 06/28-30/2022	Inspector's initials: KM

Accompaniment No.: 11	License No.: C2438
License Type: <i>Industrial Radiography</i>	Priority: 2
Inspection Date: 06/29/2022	Inspector's initials: BK

Accompaniment No.: 12	License No.: C5409
License Type: <i>Industrial Radiography (Part 37 only)</i>	Priority: 2
Inspection Date: 07/19/2022	Inspector's initials: BK