

July 26, 2004

MEMORANDUM TO: Bruce S. Mallett, Regional Administrator  
Region IV

FROM: Martin J. Virgilio */RA/*  
Deputy Executive Director for  
Materials, Research and State Programs  
Office of the Executive Director for Operations

SUBJECT: INTEGRATED MATERIALS PERFORMANCE EVALUATION  
PROGRAM FOR REGION IV

On July 1, 2004, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report for Region IV (RIV). The MRB found the RIV program adequate to protect public health and safety.

The report contains a recommendation and two good practices. The recommendation relates to the need to provide guidelines to the Regions for revising inspection frequencies which had previously been extended for good performance (guidance was provided to the Regions via a May 11, 2004, memorandum from Division of Industrial and Medical Nuclear Safety of the office of Nuclear Material Safety Material and Safeguards, subsequent to the IMPEP review). The first good practice related to the database of licensee field operations maintained by Region IV. The second good practice relates to pre-screening of licensing actions prior to assigning them to reviewers (these good practices are discussed in more detail on page 16 of the report).

Based on the results of the current IMPEP review, the next full review will be in approximately four years.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review and your support of the program.

Attachment: Proposed Final IMPEP Report

cc: T. Gwynn, RIV  
M. Satorius, RIV

CONTACT: Charles Cox, NMSS/IMNS  
(301) 415-6755

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF NRC REGION IV PROGRAM

March 22-25, 2004  
March 28 - April 8, 2004

**FINAL REPORT**

U.S. Nuclear Regulatory Commission

ADAMS ML041830510

## 1.0 INTRODUCTION

This report presents the results of the review of the Region IV (RIV) materials program. The review was conducted during the period of March 22-25, 2004, by a review team comprised of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the State of Ohio. RIV's Uranium Recovery Inspection Program was reviewed at NRC headquarters during the period of March 29 - April 8, 2004, by an NRC staff member. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of a Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the February 26, 2004, revision to NRC Management Directive (MD) 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period April 1999 to March 2004, were discussed with RIV management on March 25, 2004. The Uranium Recovery review was discussed with RIV management on April 8, 2004.

A draft of this report was issued to RIV for factual comments on April 22, 2004. RIV responded by memorandum dated May 12, 2004. The Management Review Board (MRB) met on July 1, 2004 to consider the proposed final report. The MRB found the RIV nuclear material program adequate to protect public health and safety.

The RIV materials program is administered by the Director, Division of Nuclear Materials Safety (DNMS), who reports directly to the Regional Administrator. The DNMS organization chart is included as Appendix B. At the time of the review, the RIV materials program regulated more than 550 specific material licenses.

In preparation for the review, a questionnaire addressing the common and non-common indicators was sent to RIV on February 3, 2004. RIV provided a response to the questionnaire on March 5, 2003. A copy of the completed questionnaire response can be found on NRC's Agency-wide Document Access and Management System (ADAMS) using Accession Number ML040650650.

The review team's general approach for conduct of this review consisted of: (1) examination of RIV's response to the questionnaire; (2) analysis of quantitative information from the licensing, inspection, and allegation databases, as well as ADAMS; (3) technical review of selected licensing, inspection, incident response, allegation, and decommissioning actions or files; (4) field accompaniments of two RIV inspectors; and (5) interviews with staff and management to answer questions or clarify issues. The team evaluated the information that it gathered against the IMPEP performance criteria for each common and non-common indicator and made a preliminary assessment of RIV's performance.

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

## 2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on April 9, 1999, three recommendations were made. Also, one recommendation from the March 1997 IMPEP review remained open. The team's review of the current status of the recommendations is as follows:

- (1) One recommendation remained open from the 1997 IMPEP: The review team recommends that the Office of Nuclear Material Safety and Safeguards (NMSS) issue formal, written guidance in final form, to all Regional Offices, regarding changes in procedures for licensing medical use facilities, including radiopharmaceutical therapy users.

Current Status: This item was satisfied with the issuance of NUREG-1556, Vol. 9, Program-Specific Guidance About Medical Use Licenses, dated October 2002 and Appendix BB dated January 2003, as well as NUREG-1556, Vol. 13, Program-Specific Guidance About Commercial Radiopharmacy Licenses, dated September 1999. This recommendation is closed.

- (2) The review team recommends that NMSS review the need for both field notes and formal inspection reports to document inspection results at decommissioning sites and revise guidance as appropriate.

Current Status: RIV reached a resolution with NMSS to use formal inspection reports only. This recommendation is closed.

- (3) The review team recommends that NMSS update financial assurance guidance in Regulatory Guide 3.66. NMSS should confirm that the updated guidance is responsive to Regional and Headquarters staffs' needs.

Current Status: DG-3014, Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70, and 72, dated July 1999, was published as proposed Revision 1. This recommendation is closed.

- (4) The review team recommends that NMSS review the requirements and guidance for using licensee event reports and the Nuclear Materials Event Database (NMED) when reporting materials events with the goal of cataloging events in a timely manner.

Current Status: NMSS looks at timeliness through the quarterly operating plan statistics. NMSS encourages the Regions to occasionally take a look at the data in NMED to check for completeness; however, this is primarily the responsibility of the contractor and secondly of NMSS. A procedure for submitting event information can be found in the revised Inspection Manual Chapter (IMC) 2800 (issue date 11/25/03), "Materials Inspection Program," which contains Enclosure 6, "Information For The Nuclear Materials Events Database (NMED)." This recommendation is closed.

### 3.0 COMMON PERFORMANCE INDICATORS

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

#### 3.1 Technical Staffing and Training

Issues central to the evaluation of this indicator include the DNMS materials program staffing level, technical qualifications of the staff, training, and staff turnover. To evaluate these issues, the review team examined RIV's questionnaire responses relative to this indicator, interviewed DNMS management and staff, and considered any possible workload backlogs.

Technical and licensing support staff in the RIV materials program are organized into the three branches within DNMS: the Nuclear Materials Licensing Branch (NMLB), the Nuclear Materials Inspection Branch (NMIB), and the Fuel Cycle and Decommissioning Branch (FCDB).

RIV's DNMS staffing remained relatively stable during the review period. At the time of the on-site review, RIV had seven materials inspectors, six materials license reviewers, one licensing assistant and three inspectors who primarily performed decommissioning inspections. RIV reported that six technical staff members were newly hired during the review period. Three inspectors were hired in NMIB, and one decommissioning inspector in FCDB. Two license reviewers were hired in NMLB. Technical staffing and qualifications of the uranium recovery inspectors are discussed in Section 4.1.2. The review team did not review fuel cycle staffing and qualifications due to the consolidation of regional fuel cycle responsibilities in the Region II Office. The review team concluded that RIV has a good mix in staffing for materials licensing and inspection activities, as well as decommissioning activities.

RIV has a policy of qualifying personnel as either license reviewers or inspectors; however, RIV has implemented a voluntary cross-training program among staff of the licensing, decommissioning, and inspection branches. This allows RIV to have flexibility to allocate resources where needed and to readjust the workload between licensing and inspection as necessary.

There were two technical position vacancies in DNMS at the time of the on-site review. Both vacancies were Health Physicist positions, one in NMIB and the other in NMLB. The vacancy in NMIB occurred after the promotion of an experienced inspector to fill a senior-level vacancy. DNMS management is planning to release a Solicitation of Interest regarding this position in the near future. The vacancy in NMLB is an entry-level position and will be filled through the Nuclear Safety Professional Development Program, formerly known as the Nuclear Safety Intern Program. DNMS management is actively recruiting for this position.

At the time of the last review, four technical staff members were participating in the work-at-home project after the closing of the Walnut Creek Field Office: one license reviewer and three inspectors. Since that time, one inspector was reassigned to FCDB and two inspectors retired.

The open positions due to the retirements of the two inspectors were filled in the Arlington Office. Two individuals continue to participate in the work-at-home project. A license reviewer and a decommissioning inspector work from their homes in California. They are supervised by DNMS management in the Arlington Office. The review team included work from these individuals in both the "Technical Quality of Licensing," and the "Site Decommissioning Management Plan" portions of this IMPEP review. Based on the review team's findings, the work-at-home project continues to be successful. DNMS management plans to continue to use the work-at-home program and believes that it will be especially useful during the materials security inspections for the State of California licensees.

The qualifications of the staff were determined from the questionnaire, training records, and interviews of management and personnel. The staff are well qualified from an education and experience standpoint. All staff have at least a Bachelor's degree in the sciences, or equivalent training and experience. All license reviewers have been qualified under IMC 1246 and have all been granted full signature authority. All RIV materials and decommissioning inspectors have completed the training requirements in either IMC 1245 or IMC 1246. Generally, newly hired inspectors and license reviewers are trained and certified in a reasonable time period. In cases where completion of the qualification journal or certification process took longer than originally expected, the Branch Chiefs adequately documented the exception and justification in the appropriate personnel files.

The review team determined that RIV has a well-organized system for planning, approving, and tracking training. Regional managers were fully cognizant of the qualification status and training plans for their staff, and management displayed a high commitment to training. Technical staff members regularly attended specialty training courses and refresher training, and appeared to maintain technical currency for their assigned positions.

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

### 3.2 Status of Materials Inspection Program

The team focused on five factors in reviewing this indicator: inspection frequency, overdue inspections, initial inspection of new licenses, the timely dispatch of inspection findings to licensees, and the performance of reciprocity inspections. The evaluation is based on the Region's questionnaire responses relative to this indicator, data gathered independently from the NRC's Licensing Tracking System (LTS), the examination of completed licensing and inspection casework, and interviews with the Region's managers and staff.

The team reviewed RIV's inspection priorities during the period and found that the inspection frequencies for various types of licensees were consistent with program office guidance, as provided in IMC 2800 dated November 3, 2003. The team noted that Temporary Instruction (TI) 2800/033, dated December 31, 2002, had eliminated the option to extend inspection intervals based on good licensee performance and that RIV had not reversed the previously granted extensions. The team could not find guidance from NMSS on whether or not the Regions should have re-adjusted inspection frequencies with the issuance of TI 2800/033. The

review team recommends that guidelines be provided to the Regions on revising inspection frequencies for licensees who were extended due to good performance prior to TI 2800/033, dated December 31, 2002.

In their response to the IMPEP questionnaire, RIV indicated that there were three inspections overdue by more than 25 percent of the assigned frequency. All three were priority 5 licenses and RIV had the inspections scheduled. One of the overdue inspections was performed prior to the IMPEP. In addition, the team noted that three other licensees in two categories of licenses (03800, Byproduct Material, Possession Only - Permanent Shutdown and 03810, Byproduct Material, Standby - No Operations) did not have inspection reports documenting inspections within the past five years. When this was brought to the attention of the Region's managers, a plan to inspect the licensees was immediately implemented. The team noted that the number of overdue inspections were a small fraction of the number of scheduled inspections and were well within program goals.

During the review period, RIV issued 98 initial licenses. The vast majority, 96 of 98, were inspected within the assigned inspection frequency. The other two licensees were inspected within 18 months.

During the review period, RIV consistently exceeded the reciprocity inspection goals as established in IMC 1220.

The timeliness of the issuance of inspection findings was evaluated during the inspection casework review. For the routine inspection files examined, all inspection findings were sent to the licensees within 30 days.

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

### 3.3 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and inspection field notes and interviewed inspectors for 22 materials inspections conducted during the review period. Nine of RIV's materials inspectors' casework were reviewed. The casework covered inspections of various license types, including: medical institutions, high dose rate remote afterloaders (HDR), well logging, industrial radiography, portable gauges, academic, waste treatment, research and development, and byproduct material possession only. Appendix C lists the inspection casework files reviewed for completeness and adequacy with specific comments.

During the review, the team determined that RIV is performing inspections of materials licensees in accordance with IMC 2800 dated November 3, 2003. Inspectors reviewed previous open items and past violations during the inspections. For the cases reviewed, inspection reports were thorough, complete, and of high quality, with sufficient documentation to ensure that licensee's performance with respect to health and safety was acceptable. Inspection findings lead to appropriate and prompt regulatory action. Team inspections were conducted



as appropriate. Based on the casework, routine inspections covered all aspects of the licensees' radiation programs.

The team determined that DNMS Branch Chiefs are accompanying all inspectors at least once each year. The experience level of the inspector is taken into account in the accompaniment schedule, with a higher priority given to new inspectors.

Two Regional inspectors were accompanied during inspections by a review team member during the weeks of February 10 and March 8, 2004. Inspection accompaniments were conducted on inspections as follows: broad-scope medical; nuclear pharmacy; nuclear medicine; and two portable gauges. These accompaniments are identified in Appendix C.

During the accompaniments, each inspector demonstrated appropriate inspection techniques and knowledge of the regulations. The inspectors were trained, prepared, and thorough in their inspections of the licensees' radiation safety programs. Overall, each inspector utilized good health physics practices, their interviews with licensee personnel were performed in an effective manner, and their inspections were adequate to assess radiological health and safety at the licensed facilities.

A potential good practice was identified by the team during the review. RIV keeps a database of sites where licensees may conduct field operations. Inspectors use the database in conducting unannounced field inspections when they are in the vicinity for a routine inspection. The review team recommends that the use of this database be found a good practice.

The team found that RIV maintains a sufficient number of various models of survey instruments to perform radiological surveys of materials licensees. The review team examined instrumentation and observed that the survey instruments in RIV's office at the time of the onsite review were calibrated and operable. Instrument calibrations are performed by the manufacturer or a licensed calibration facility. All samples are sent to a radioanalytical laboratory for analysis.

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

### 3.4 Technical Quality of Licensing Actions

The review team examined the completed licenses and casework for 21 materials licensing actions, and interviewed the Branch Chief of the NMLB and various license reviewers. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequate facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Licenses were reviewed for accuracy, appropriateness of the license document and its conditions and tie-down conditions, and overall technical quality. Casework was evaluated for adherence to good health physics practices, reference to appropriate regulations, supporting documents, adherence to sealed source and device registration, consideration of enforcement history on renewals, pre-licensing site visits, peer or supervisory review and proper signature authorities. The files were checked for retention of necessary documents to support the licensing actions.

The licensing casework was selected to provide both a representative sample of licensing actions completed during the review period, including a review of seven license reviewers. The licensing actions reviewed included the following types of licensees: industrial radiography; research and development broadscope; medical institution written directive required; mobile medical service; fixed gauge; well logging; manufacturing and distribution; academic broadscope; portable gauge; medical private practice; nuclear pharmacy; service; sealed source manufacturer; veterinary non-human use; teletherapy; gamma knife; medical high dose rate afterloader; and medical institution broadscope. Licensing actions included four new applications, four renewals (including associated decommissioning financial assurance), three terminations, and ten amendments. A listing of the casework licenses evaluated with case-specific comments is enclosed in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, timely, consistent, and of high quality with health and safety issues properly addressed. The files generally contained appropriate licensing checklists and documentation to support the licensing action. License tie-down conditions were stated clearly, backed by information contained in the license or sealed source and device registry files. Deficiency letters are used at the proper time, state regulatory positions and identify deficiencies in the licensee's documents. Terminated licensing actions are well documented, showing pertinent transfer and survey records. The deficiencies that were identified by the review team in licensing were minor, isolated, or administrative in nature, with many issues corrected during the on-site visit. The licensee's compliance history was taken into account during the review process and the review team found that there was good two-way communication between the licensing and inspection staffs regarding applicable licensee information. The licensing staff used the NRC licensing guidance in the NUREG-1556 series and completed detailed checklists for renewals and new license applications. The review team noted that each individual reviewer also utilizes a checklist for license amendments. However, the checklists are not included with files, but are maintained by the license reviewer for reference, unless the review involves a complex request. In these cases, complex licensing actions are documented on checklist and filed in the license file or ADAMS system.

All license reviewers have been granted signature authority and sign their own licensing actions. The licensing staff generated licenses and correspondence with standardized conditions and format. The licenses were issued for a ten-year period under a timely renewal system. The review team noted that the licensing staff used the computer database effectively and efficiently to obtain needed information for completing licensing actions. Discussions with the Branch Chief of the NMLB confirmed that there is a process used to assure that licensing actions are reviewed by the appropriate qualified license reviewers. All licenses reviewed were signed by license reviewers with appropriate signature authority.

The team reviewed RIV's process for pre-screening licensing actions prior to assigning them to the license reviewers. The process involves the Branch Chief and the senior staff of the NMLB meeting weekly to pre-screen every licensing action to determine if the licensee and/or applicant has provided adequate information for license reviewers to conduct a review of the request. Licensing actions with insufficient information (i.e., no signature, missing referenced information, no supporting documentation, etc.) are provided to the staff for follow-up. After the licensee has responded with the additional information, the review can be completed. Based on discussions with the Branch Chief and senior staff this pre-screening approach to the licensing

process has greatly improved the timeliness of licensing actions and reduced the need for lengthy deficiently correspondence. The staff also indicated that this process has had a positive effect on the communications between license reviewers and the licensing management staff. The review team recommends that the Region's practice of pre-screening materials licensing requests to improve the effectiveness and efficiency of reviewing license actions be identified as a good practice.

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

### 3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of RIV's actions in responding to incidents, the team examined RIV's response to the questionnaire relative to this indicator, evaluated selected incidents reported for RIV in NMED, and evaluated the casework and supporting documentation for nine material incidents. A list of the incident casework examined with case-specific comments is included in Appendix E. The team also reviewed RIV's response to five allegations involving radioactive materials.

The team discussed, with RIV staff and management, incident and allegation procedures, file documentation, use of NMED, and notification of incidents to the NRC Operations Center. The responsibility for initial response and follow-up actions to materials incidents rests with DNMS. All incidents are promptly evaluated by DNMS management for the need for onsite investigations or other follow-up actions. The review team determined that DNMS took prompt, appropriate, action in response to incidents. For the nine incidents reviewed, the review team observed that RIV consistently addressed health and safety issues during incident follow-up. The review team found that DNMS' level of effort expended on incidents was appropriate and commensurate with the potential health and safety significance of the incidents. RIV staff adequately and clearly identified licensee noncompliance issues, and initiated enforcement actions to ensure prompt compliance, as appropriate. In addition, RIV coordinated materials incident responses in a timely and effective manner with other NRC offices, and, when appropriate, with States. The review of license files and discussions with staff revealed that Preliminary Notifications (PNs) in response to incidents were prepared and issued in accordance with regional instructions and IMC 1120, "Preliminary Notifications." All PNs received supervisory review and approval before issuance. The review team found good correlation between the PNs issued by RIV, the incident information in ADAMS, and the incident information in NMED.

The inspection staff was found to be familiar with NMED. Interviews with the inspection staff indicated that NMED was being used by the staff prior to inspections. The team concluded that RIV is in conformance with the existing expectations for NMED. The team found that most NMED records for the event files reviewed were complete and generally accurate. Several cases that have been closed by RIV were still designated as "not closed" in NMED, although NMSS is informed monthly when cases are closed and which cases are still open. The review team brought this to the attention of the NMSS NMED project manager and NMED has been updated.

In evaluating the effectiveness of RIV's actions in response to allegations, the review team examined RIV's response to the IMPEP questionnaire, and reviewed the allegations files and supporting documentation for five materials allegations. The review team interviewed the Regional Allegations Coordinator, DNMS managers, and DNMS technical staff regarding the handling of allegations.

Responsibility for initial response and follow-up actions to material allegations rests with the Regional Allegations Coordinator, in conjunction with DNMS staff and management. The team's review of casework, associated documents, and interviews with staff revealed that RIV has an effective and efficient program for managing materials allegations. During the review period, RIV has annually closed 92 to 94 percent of its allegations within 180 days. Also, 100 percent of the cases were closed in less than 360 days. Thus, overall, RIV has met the Regional Operating Plan goals. In addition, all Allegation Review Board meetings were held within the MD 8.8, "Management of Allegations," goal of 30 days. Acknowledgment letters, responding to allegers, were issued within the performance goal of 30 days.

The review team found that proper procedures were being followed for control and maintenance of allegation materials, in accordance with MD 8.8. DNMS staff received annual allegation training via the computer and in group sessions held by the allegation coordinators. Also, the RIV staff appears to have a clear understanding of the applications of MD 8.8.

The review team noted that internal and external coordination of allegations was appropriate and performed in a timely manner. The results of file reviews showed that DNMS routinely referred cases involving potential wrongdoing to the Office of Investigations for resolution. In addition, the review team noted that allegations involving Agreement States were appropriately managed.

Based on the IMPEP evaluation criteria, the review team recommends that RIV's performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory.

#### 4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies three non-common performance indicators to be used in reviewing Regional materials program: (1) the Uranium Recovery Program; (2) Regional Fuel Cycle Inspection Program; and (3) Site Decommissioning Management Plan and Decommissioning Activities. RIV's material program does not cover Regional Fuel Cycle Inspection Program, so only the first and last non-common performance indicators were applicable to this review.

##### 4.1 Uranium Recovery Program

This non-common indicator includes five sub-indicators of the uranium recovery regulatory program: 1) Technical Staffing and Training; 2) Status of the Uranium Recovery Inspection Program; 3) Technical Quality of the Uranium Recovery Inspection Program; 4) Technical Quality of Licensing; and 5) Technical Quality of Incidents and Allegation Activities. Sub-

indicators 1, 2,3, and 5 are discussed in this section of the report. RIV does not conduct uranium recovery licensing; therefore, sub-indicator 4 was not addressed in this review.

#### 4.1.1 Technical Staffing and Training

In reviewing this sub-indicator, the review team considered the uranium recovery program staffing level, the technical qualifications of the staff, staff training, and staff turnover. For over two years, NMLB has had one primary inspector who performs the uranium recovery inspections. Another is assigned to assist as needed. This is considered appropriate for the reduced inspection frequency since January 2003.

Staff qualifications and training appear adequate. Refresher training is provided and attendance at the NRC-National Mining Association annual meeting is supported. The RIV uranium recovery inspectors all have reactor health physics or materials radiation safety backgrounds, so the health physics focus of the inspections has been strong. However, expertise in other areas, such as geotechnical engineering, hydrology, and geo-sciences, is also required to perform the range of inspections necessary at many of the uranium recovery facilities. Occasionally during the review period, this expertise was provided by NMSS technical staff.

Based on discussions with RIV management, management is aware of the implications associated with staff turnover in general and is cross-training staff so they are certified to performed the different types of inspections. This allows the flexibility to cover all needed inspections.

#### 4.1.2 Status of the Uranium Recovery Inspection Program

The review team focused on several factors in evaluating RIV's performance for this sub-indicator, including inspection frequency, overdue inspections, timely issuance of inspection findings to licensees, and inspection follow-up. The review team's evaluation is based on a review of RIV's responses to the questionnaire, the uranium recovery inspection schedule, selected inspection casework files, and interviews with inspection staff and management. A list of the RIV uranium recovery inspection files that were reviewed is included as Appendix F.

During the review period, RIV inspected 26 uranium recovery facilities (one mill site transferred to the Department of Energy, one license terminated, and one in-situ leach (ISL) license approved but facility not built) of various types and stages of operation. They included ISL facilities, conventional uranium mills (one of which is operational), and an 11e.(2) byproduct material disposal site. Most of the sites are non-operating conventional uranium mills that are in various stages of decommissioning and reclamation.

Inspection frequency is established through a Master Inspection Plan (MIP) developed by RIV in conjunction with the program office in NMSS. This inspection schedule is based on guidance in NRC IMC 2641, "In-Situ Leach Facilities Inspection Program," and IMC 2801, "Uranium Mill and 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program." Since the MIP

is a dynamic program, affected by the existing staffing levels and inspection requirements, it is changed on an as-needed basis to complete the inspection cycle. Subsequently, since March 1999, there have been no overdue inspections.

The timeliness of the issuance of inspection findings was also evaluated during the inspection file review. The list of inspection reports were readily produced by the RIV staff when requested. All inspection reports that were reviewed were issued within 30 days after completion of the inspection, except for the Team Inspection which met its goal of 45 days. While formal follow-up reports are no longer written, follow-up items were properly tracked and closed when appropriate.

#### 4.1.3 Technical Quality of Uranium Recovery Inspections

In reviewing this sub-indicator, the review team examined inspection reports, and other documentation for six inspections conducted during the review period. The cases selected for review covered various licensees representing a range of uranium recovery licensing activities in different stages of operation. Inspectors and management were interviewed to assess the adequacy of their preparation for the inspections, the depth and content of the actual inspections, and the appropriateness of inspection findings. The review team's findings are discussed below.

Generally, one RIV uranium recovery inspector will conduct an inspection, with occasional help from other inspectors, supervisors, or Headquarters technical staff. The inspectors coordinate, plan, and prepare for inspections. They review relevant manual chapters, inspection procedures, previous inspection reports, licenses, incident reports, notices of violations, and other background information, and often consult with the licensing staff in the Uranium Processing Section, NMSS (UPS) before inspections.

The review determined that, during a typical inspection, inspectors observe licensee operations; interview workers, managers, and contractors; review facility records; examine site operating plans and procedures; and normally make independent measurements during inspections. These activities were also verified through two recent inspection accompaniments (July 2003, and February 2004) that were performed by the Fuel Cycle Safety and Safeguards (FCSS), NMSS staff. The FCSS staff also indicated that the inspector was prepared and conducted himself in a professional manner. Although the RIV inspectors primarily focus on health physics and radiation safety issues, they also routinely inspect for environmental monitoring, management and organizational issues, and general housekeeping practices. The inspectors typically observe a broad spectrum of licensee operations.

The review team found that the RIV uranium recovery inspection staff writes and issues high-quality inspection reports. The reports were well-written, provided appropriate depth, and were promptly reviewed by supervisors. They addressed compliance conditions for the licensees, and demonstrated that the inspectors pursued root causes where problems or violations were identified. The inspectors also noted licensee good practices in the reports.

The inspection findings generally lead to appropriate and prompt regulatory action. Licensees are given 30 days to reply to the Notice of Violation. After the response, a letter is sent indicating if the review of the proposed corrective actions is satisfactory or not.

The review team determined that during the review period, the uranium recovery inspectors had been accompanied by their supervisors at least once a year. The review team found that the supervisors routinely meet with the uranium recovery inspectors after their inspections to review inspection findings and to plan follow-up strategy.

#### 4.1.4 Technical Quality of Licensing Actions

Since RIV does not conduct uranium recovery licensing, this sub-indicator was not reviewed during the IMPEP review.

#### 4.1.5 Technical Quality of Incident and Allegation Activities

For this sub-indicator, the review team examined the information on the uranium recovery incidents and allegations listed in RIV's response to the questionnaire. Also, RIV had 18 uranium recovery event reports captured in NMED during the review period. Two of the 18 events were classified as NRC reportable events. One of the two reportable events required follow-up at the next inspection. The follow-up was done appropriately and thoroughly per the inspection report.

The review team also discussed the handling of allegations with uranium recovery inspectors. It was indicated that staff responded and closed allegations in a timely manner. The team determined that RIV's process, procedures, and overall performance were acceptable as reviewed under the common indicator, Technical Quality of Incident and Allegation Activities, and discussed in Section 3.5 of this report.

#### 4.1.6 Conclusion

Based on the evaluation criteria for this non-common performance indicator 4, the review team recommends that RIV's performance with respect to this indicator, Uranium Recovery Program, be found satisfactory for all four sub-elements.

### 4.2 Site Decommissioning Management Plan

The Site Decommissioning Management Plan (SDMP) includes sites that involve decommissioning issues that present varying degrees of radiological hazard, remediation complexity, and cost. These unique and difficult sites have buildings, former waste disposal areas, large piles of tailings, ground water, and soil contaminated with low levels of uranium or thorium (source material), or other radionuclides. In RIV, SDMP and non-SDMP sites that required substantial decommissioning actions, such as remediation or final radiological surveys,

were the responsibility of the Decommissioning Branch. Non-complex decommissioning license terminations, such as for Group I licensees, were assigned to the Materials Licensing Branch.

In conducting this review, six sub-indicators were reviewed to evaluate RIV's performance regarding their SDMP. These sub-indicators included: (1) Quality of SDMP Decommission Reviews; (2) Financial Assurance for Decommissioning; (3) Termination Radiological Surveys; (4) Inspections; (5) Staff Qualifications; and (6) SDMP Milestones. In performing this review, the review team interviewed DNMS management and staff, examined SDMP files, non-SDMP files, and reviewed financial assurance documents. Appendix G contains the SDMP and decommissioning files reviewed.

#### 4.2.1 Quality of SDMP Decommissioning Reviews

To assess RIV's performance on reviews for license terminations, the review team interviewed RIV staff and examined files for five SDMP sites, five non-SDMP sites that were terminated or undergoing decommissioning activities during the review period. RIV did not have project management or licensing responsibilities for any of the SDMP sites, and was only responsible for the inspection requirements.

Decommissioning licensing review actions undertaken by RIV staff for non-SDMP sites included: reviewing the status of sites in accordance with timeliness requirements; reviewing/approving radiological criteria for release of sites; reviewing licensees' decommissioning plans; ensuring adequate financial assurance; reviewing licensees' final status survey plans and reports; and conducting confirmatory surveys.

Licensee decommissioning plans, where required, final status survey results, and closeout documentation were reviewed and documented by DNMS in accordance with applicable NRC guidance.

#### 4.2.2 Financial Assurance for Decommissioning

As noted in Section 4.2.1, RIV did not have responsibility for project management of SDMP sites, and financial assurance reviews for SDMP sites were not performed by RIV. However, the review team evaluated RIV's non-SDMP financial assurance program for conformance with requirements of MD 8.12, "Decommissioning Financial Assurance Instrument Security Program."

To assess the performance of RIV for financial assurance, the review team examined the Licensing Tracking System; RIV's "Financial Assurance Inventory;" 16 financial assurance instruments in the file, including a comparison with the inventory list information; RIV's annual self-evaluations, security of decommissioning financial assurance instruments, and interviewed licensing staff.

The review team confirmed that RIV has staff assigned as a Decommissioning Financial Assurance Instrument Custodian (Custodian), Alternate Custodian (Alternate), and Manager, in accordance with MD 8.12. The Manager is the Licensing Branch Chief. The review team confirmed that the Custodian, Alternate, and Manager have been designated in writing, and that no one has access to the financial assurance records other than through these individuals, as



required by MD 8.12. The review team confirmed that the decommissioning financial assurance instruments are stored in a fire-rated safe, having a fire rating in accordance with MD 8.12. The review team also confirmed that the Custodian maintains an inventory list of the financial assurance instruments held in the safe, and this inventory contains the information required by MD 8.12.

The team reviewed the self assessment required by MD 8.12 for 1999 through 2003. MD 8.12 requires the annual self assessments review of 100 percent of the files on the inventory list against the guidelines in the Handbook. Additionally, MD 8.12 requires that two evaluations of financial assurance instruments be conducted annually, one by the Custodian or Alternate, and one by the Manager. All of the reviewed audits met the requirements of MD 8.12.

The team reviewed the security of the financial assurance instruments. RIV has established check out/in procedures. Each time the safe is opened and closed, an entry is made on a log sheet. Instruments that are taken from the safe are returned before the end of the business day.

The team compared the inventory list of the financial assurance instruments with the LTS. The team found minor discrepancies between the inventory list and LTS. These minor discrepancies would not prevent the execution of the financial instruments.

#### 4.2.3 Termination Radiological Surveys

For this performance area, the review team assessed the manner in which RIV ensured that sufficient radiological surveys were being performed to support license termination as outlined in IMC 2605, and that licensee survey results were validated through a closeout inspection or confirmatory survey, where necessary.

The review team concluded that RIV's surveys and decommissioning inspections were adequate to ensure that residual radioactivity levels comply with release criteria. Confirmatory or closeout surveys were performed, as necessary, for each licensee's site, by RIV or NRC's contractor to validate licensee survey data. Additionally, in-process surveys were also performed, as necessary. These surveys were performed as outlined in IMC 2605, "Decommissioning Procedures," Inspection Procedure (IP) 87104, "Decommissioning Inspection Procedure for Materials Licensees," and IP 88104, "Decommissioning Inspection Procedure for Fuel Cycle Facilities."

#### 4.2.4 Inspections

The review team evaluated the number of inspections performed at SDMP and non-SDMP sites during the review period. The review team concluded RIV has planned, documented, and performed inspections in accordance with IMC 2602, "Decommissioning Inspection Program for Fuel Cycle Facilities and Materials Licensees," Inspection Procedure 87104, "Decommissioning Inspection Procedure for Materials Licensees," and IP 88104, "Decommissioning Inspection Procedure for Fuel Cycle Facilities."

No delays in any RIV SDMP site remediation were attributable to RIV's inspection program. Policy issues involving SDMP decommissioning plans were determined by the project office. RIV conferred with the project office on proposed inspection activities as needed. RIV staff had supported the project office on SDMP site confirmatory surveys, licensee meetings, and review and concurrence on licensing actions. In a number of cases, project office staff participated in inspections. No decommissioning inspections were overdue, and inspection documentation was completed and issued in a timely manner. Closeout inspections are performed, as appropriate, to terminate licenses.

#### 4.2.5 Staff Qualifications

Qualifications of the RIV staff are discussed in Section 3.1, "Technical Staffing and Training." In general, the review team found that the decommissioning staff was experienced and qualified to perform licensing and inspection functions on decommissioning sites. The staff is knowledgeable about the process and procedures for decommissioning, and the staff follows the process and procedures, as applicable, to each decommissioning site and license termination action.

#### 4.2.6 SDMP Milestones

RIV does not have project management responsibilities for SDMP facilities. Within the SDMP program, RIV was responsible for inspections and surveys at SDMP sites. SDMP milestones were often tied to decommissioning and survey plan reviews conducted by the project office and required close coordination between the project office and RIV. Inspections were planned and scheduled by RIV staff in coordination with the project office to ensure that inspections were timely relative to the milestones. With respect to the limited role RIV played with regard to SDMP milestones, the team observed that RIV was performing in a successful manner in coordination of inspections with the project office.

#### 4.2.6 Conclusion

Based on the IMPEP evaluation criteria, the review team recommends that RIV's performance with respect to the indicator, Site Decommissioning Management Plan, be found satisfactory.

## 5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found RIV's performance with respect to each of the performance indicators to be satisfactory. Accordingly, the review team recommended and the MRB concurred in finding the RIV nuclear material program to be adequate to protect public health and safety. Based on the results of the current IMPEP review, the next full review be in approximately four years.

Below are the recommendations, as mentioned earlier in the report, for evaluation and implementation, as appropriate, by RIV or NMSS.

RECOMMENDATIONS:

1. The review team recommends that guidelines be provided to the Regions on revising inspection frequencies for licensees who were extended due to good performance prior to Temporary Instruction 2800/033, dated December 31, 2002. (Section 3.2)

GOOD PRACTICES:

1. RIV keeps a database of sites where licensees may conduct field operations. Inspectors use the database in conducting unannounced field inspections when they are in the vicinity for a routine inspection. (Section 3.3)
2. RIV pre-screens licensing actions prior to assigning them to the license reviewers. The process involves the Branch Chief and the Senior Staff of the Material Licensing Branch meeting weekly to pre-screen every licensing action to determine if the licensee and/or applicant has provided adequate information for license reviewers to review the application. Applications with insufficient information (i.e., no signature, missing referenced information, no supporting documentation, etc.) are provided to the staff for follow-up. After the licensee has responded with the additional information, the review can be completed. This pre-screening approach to the licensing process has greatly increased the timeliness of licensing actions and reduced the need for lengthy deficiency correspondence and has, overall, increased the effectiveness and efficiency of reviewing licensing actions. A pre-screening approach appropriate for the resources available to the licensing agency may increase the effectiveness and efficiency for that agency. (Section 3.4)

## **LIST OF APPENDICES**

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Appendix E	Incident Casework Reviews
Appendix F	Uranium Recovery Inspection Reviews
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## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

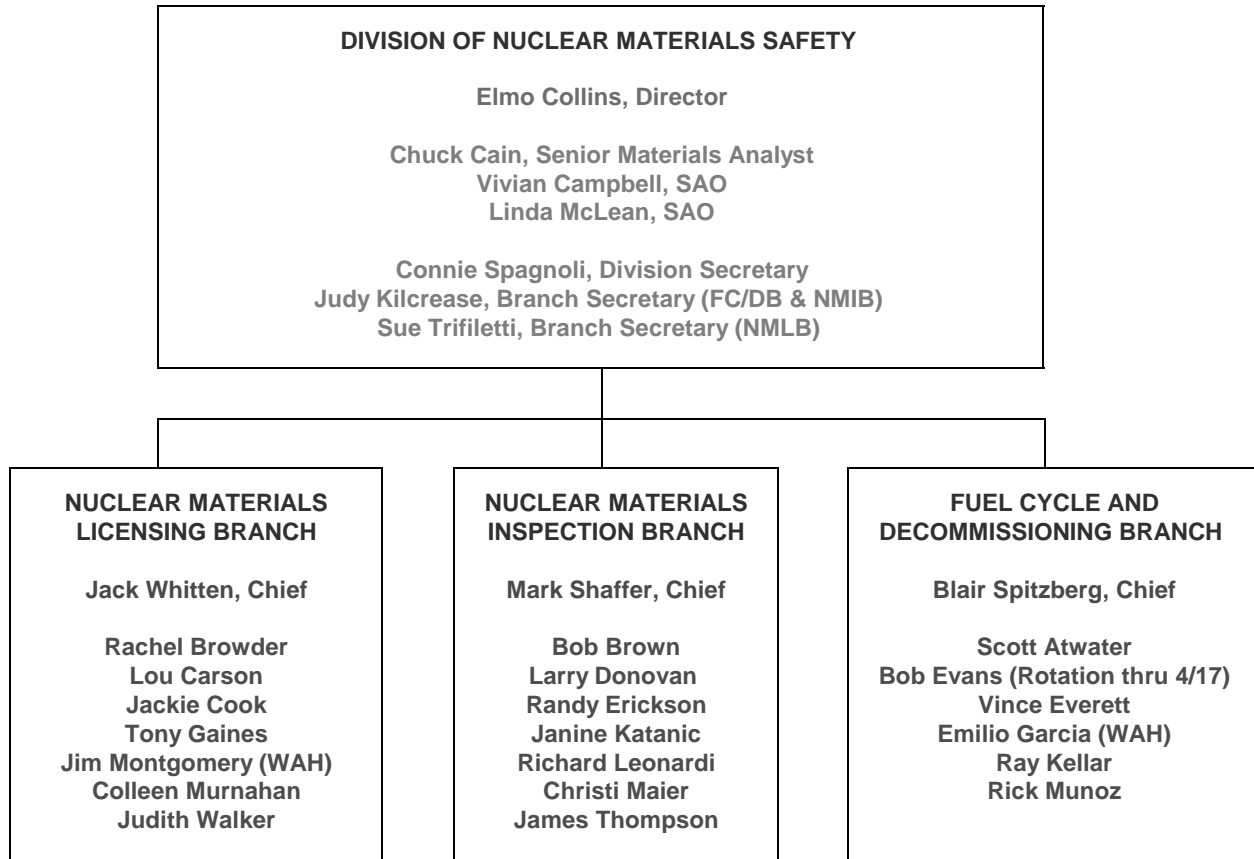
<b>Name</b>	<b>Area of Responsibility</b>
Charles Cox, NMSS/IMNS	Team Leader Inspection Accompaniments
Marissa Bailey, NMSS/IMNS	Team Leader Technical Quality of Incident and Allegation Actions
Aaron McCraw, STP	Technical Staffing and Training
Michael Snee, Ohio	Status of Materials Inspection Program Technical Quality of Inspections
Cassandra Frazier, RIII/DNMS	Technical Quality of Licensing Actions
James Kottan, RI/DNMS	Site Decommissioning Management Plan
Elaine Brummett, NMSS/FCSS	Uranium Recovery Program

APPENDIX B

REGION IV

DIVISION OF NUCLEAR MATERIAL SAFETY

ORGANIZATION CHART



REVISED: 8/3/04



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

May 12, 2004

MEMORANDUM TO: Charles Cox, Team Leader  
Office of Nuclear Materials Safety and Safeguards

FROM: Elmo E. Collins, Director */RA/*  
Division of Nuclear Materials Safety

SUBJECT: DRAFT IMPEP REPORT

Thank you for the opportunity to review and provide comments on this report which you provided to us in your memo dated April 22, 2004. The following comments are provided for your consideration.

In Section 3.1, the fifth paragraph, Region IV recommends changing the last sentence to read "DNMS management is actively recruiting for this position."

In Section 3.1, the sixth paragraph addressing the work-at-home program, Region IV recommends changing the last sentence to read "DNMS management plans to continue to use the work-at-home program and believes that it will be especially useful during the materials security inspections for the State of California licensees."

In Section 3.2, the second paragraph, by stating (in the second sentence) that the inspection frequency for licensees who were extended due to good performance prior to ..... had not been adjusted back to the specified frequency, and by citing the actions of Region I and Region III, leaves the impression that Region IV should have made this change. This impression would be inconsistent with the recommendation that the program office provide guidance for the change. Region IV recommends that the team consider language as follows:

The team reviewed RIV's inspection priorities during the period and found that the inspection frequencies for various types of licensees were consistent with program office guidance, as provided in IMC 2800 dated November 3, 2003. The team noted that Temporary Instruction (TI) 2800/033, dated December 31, 2002, had eliminated the option to extend inspection intervals based on good licensee performance and that RIV had not reversed the previously granted extensions. The team could not find guidance from NMSS on whether or not the Regions should have re-adjusted inspection frequencies with the issuance of TI 2800/033. The review team recommends that guidelines be provided to the Regions on revising inspection frequencies for licensees who were extended due to good performance prior to TI 2800/033, dated December 31, 2002.

In Section 3.2, in the third and fourth paragraphs discussing overdue inspections, there is no context indicating that the fraction of overdue inspections is well within program goals. Region IV actively manages inspection scheduling and completion. From time-to-time, there is a need to use management discretion to adjust the schedule for inspections because of the challenges associated with sending inspectors to remote and distant locations and at the same time considering cost and efficiency. Region IV has done this and maintained program performance well within established goals.

In Section 3.4, Region IV recommends reversing the sequence of the third and fourth paragraphs. This places the overall conclusions immediately following the review scope description. Also, the last two sentences in the review description paragraph are results and probably should be moved to one of the results paragraphs.

In Section 3.5, the third paragraph discussing NMED event status, it probably should be noted that the items discussed as "open" in NMED and "closed" in Region IV have now been updated to indicate "closed" in NMED.

In Section 3.5, regarding the IMPEP team recommendation, Region IV's assessment of this occurrence is that it is isolated and does not rise to the level of an IMPEP team recommendation. Based on multiple internal and external audits, Region IV's overall performance in this area has been excellent. Regarding the specific occurrence described in the draft report, Region IV is considering modifying its practices for certified or express mail receipt; however, the exact cause for the improper routing of this letter was not determinable. Irrespective of this planned change, it is Region IV's expectation that allegations received via certified mail or even regular mail be properly identified and processed in accordance with agency guidance.

In Section 4.1.1, the third paragraph, Region IV recommends elimination of the phrase "expect 25 percent to leave within 3 years."



Memorandum to Charles Cox

-3-

cc:  
Bruce Mallett  
Pat Gwynn  
DNMS B/Cs  
DNMS SMA

ADAMS:  Yes  No Initials: \_\_clc\_\_  
 Publicly Available  Non-Publicly Available  Sensitive  Non-Sensitive

DOCUMENT NAME: draft: S:\DNMS\IMPEP04\DraftIMPEPReportResponse.wpd

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05/12/2004	05/12/2004			

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