



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 8, 2003

Dianne R. Nielson, Ph.D.
Executive Director
Department of Environmental Quality
168 North 1950 West
Salt Lake City, UT 84116



Dear Dr. Nielson:

On September 25, 2003, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Utah Agreement State Program. Subsequent to the MRB meeting, the team requested additional time to review the updated Training Qualification Forms that were supplied to the team following the onsite review. Discussions were conducted with State management involving these forms and the report was further revised. MRB concurrence on the revised language was received on November 25, 2003. The MRB found the Utah program adequate to protect public health and safety, and compatible with the Nuclear Regulatory Commission's program.

Section 5.0, page 16, of the enclosed final report presents the IMPEP team's recommendation for the State of Utah. We received the August 14, 2003 letter from Craig W. Jones, Acting Director, Division of Radiation Control, and request no additional information at this time.

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. I also wish to acknowledge your continued support for the Radiation Control Program and the excellence in program administration demonstrated by your staff as reflected in the team's findings. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely,

A handwritten signature in cursive script, appearing to read "Carl J. Paperiello".

Carl J. Paperiello
Deputy Executive Director for Materials,
Research and State Programs

Enclosure:
As stated

cc: William J. Sinclair, Deputy Director
Utah Department of Environmental Quality

✓ Dane Finerfrock, Director
Division of Radiation Control

Edgar Bailey, CA
OAS Liaison to the MRB

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF UTAH AGREEMENT STATE PROGRAM

June 23-27, 2003

FINAL REPORT

U.S. Nuclear Regulatory Commission

1.0 INTRODUCTION

This report presents the results of the review of the Utah radiation control program. The review was conducted during the period June 23-27, 2003 by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Maine. Review 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 November 5, 1999, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period November 20, 1998, to June 27, 2003 were discussed with Utah management on June 27, 2003.

A draft of this report was issued to Utah for factual comment on July 24, 2003. The State responded by letter dated August 14, 2003. The Management Review Board (MRB) met on September 25, 2003 to consider the proposed final report. The MRB found the Utah radiation control program adequate to protect public health and safety and compatible with NRC's program.

The Utah Agreement State program is administered by the Division of Radiation Control (the Division) located in the Department of Environmental Quality (the Department). Organization charts for the Division and Department are included as Appendix B. The Utah program regulates approximately 200 specific licenses authorizing agreement materials and a low-level radioactive waste site. The review focused on the materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Utah.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Division on April 15, 2003. The Division provided a response to the questionnaire on June 2, 2003, and a corrected copy of the response was provided electronically on July 9, 2003, following the review. A copy of the corrected questionnaire response may be found on NRC's Agencywide Document Access and Management Systems using the Accession Number ML031910180.

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

Section 2 below discusses the State's actions in response to recommendations made following the previous IMPEP review and the team's conclusions regarding close-out of the recommendations. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-

Technical staffing in the Materials Section has been stable since the previous review and the review team believes that this staffing level is adequate. One staff member from the materials program left the program on June 20, 2003. The review team was informed that the paperwork needed to fill this position had been initiated and approved at the Department level.

The Division has a documented training and qualification program in place for staff which is based on the NRC/Organization of Agreement States Joint Working Group report. Adequate qualification is determined through a combination of education and experience, formal classroom training, and on-the-job training. Staff members are required to have a bachelor's degree or equivalent experience in the physical sciences. The Division maintains a training matrix, listing the "required courses" and "recommended courses" for each staff position by program activity. These staff positions are: Health Physicist, Low-Level Waste Inspector, Radiological Transportation & Safety Specialist, Engineer, Hydrologist, and Section Manager.

Records show that Materials Section staff have all received their required and recommended courses for their positions, and are very familiar with Utah regulations, policies, and procedures.

During team interviews with the staff and the Division Radiation Safety Officer (RSO), the RSO discussed plans to conduct an in-house refresher course on some new survey equipment. The RSO agreed that the course should include refresher training for all technical staff on the capabilities and use of the other radiological instrumentation in the Division. This training will be documented in training files.

The Utah Radiation Control Board is appointed by the Governor, with consent of the Senate, and guides development of Radiation Control policy and regulations. The Board meets at least ten times per year, and the minutes of the meetings are posted on the web site. All members are subject to the Utah Public Officer's and Employees' Ethics Act.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Utah's performance with respect to the indicator, Technical Staffing and Training, was 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 licensees, the timely dispatch of inspection findings to licensees, and the performance of reciprocity inspections. The evaluation is based on the Division's questionnaire response relative to this indicator, data gathered independently from the Division's licensing and inspection data tracking system, the examination of completed licensing and inspection casework, and interviews with managers and staff.

The staff uses a custom database management system for their tracking system. The data is maintained on a network and is available to all staff. This allows them to project the next inspection due date and to sort the inspection data as needed. The staff updates the information on this system continuously to keep it up-to-date.

The team's review of the Division's inspection priorities verified that inspection intervals for various types of material licenses are generally at least as frequent as, or more frequent than,

similar license types listed in NRC IMC 2800. Thirty-seven of the 78 license categories established by the Division are inspected more frequently than similar license types listed in NRC IMC 2800. Two categories, Instrument Calibration (< 100Ci) and Strontium-90 Eye Applicator, had inspection intervals greater than the interval outlined in NRC IMC 2800. However, the Division has no licensees in these categories.

In their response to the questionnaire, the Division indicated that no inspections were overdue by more than 25 percent of the NRC frequency. This information was verified by review of the inspection data provided to the team. The Division performs approximately 80 routine inspections annually. The team determined that only four core routine inspections were conducted overdue during the review period. The team also determined that, in those instances where the licensee was inspected past the due date, there was clear documentation that showed that an inspection was attempted by the due date or other extenuating circumstances existed. In all cases where inspections were conducted past the due date, Division management was fully aware of the circumstances.

With respect to initial inspections of new licensees, the review team noted that the Division conducted initial inspections in accordance with NRC IMC 2800 guidelines. There were 38 new licenses issued during the review period.

The timeliness of the issuance of inspection findings was evaluated during the inspection casework review. There were no instances identified where inspection correspondence was not sent within 30 days after the inspection. The team also determined that licensee responses were received and responded to in a timely manner.

During the review period, the Division granted 85 reciprocity permits, of which, 83 permits were core licensees based on NRC IMC 2800. The review team noted that the Division has adopted the criteria outlined in NRC IMC 1220 as the Division's criteria for inspecting licensees working in Utah under reciprocity each time the NRC has changed the criteria during the review period. The team also determined that the current NRC criteria of inspecting 20 percent of candidate core licensees operating under reciprocity each year is the criteria currently being used by the Division. The team determined that the Division met or exceeded the NRC IMC 1220 criteria for the entire review period.

The Division's custom database management system is programed to provide the staff with a "pop-up" window, each day upon logging in, that indicates who is working in the State under reciprocity during the next 7-day period. If there are no licensees working under reciprocity during that time period, the "pop-up" window indicates this as well. The system also tracks who had been in the State, when, where, and for how long. The team recommends that the Division's system for tracking licensees that are working in the State under reciprocity be considered a good practice.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Utah's performance with respect to the indicator, Status of Materials Inspection Program, was satisfactory.

3.3 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, inspection field notes, and interviewed staff for 10 radioactive material inspections conducted during the review period. The casework included all inspectors and the Materials Section Manager. The casework covered inspections of various types including; panoramic irradiator, medical institutions, medical private practice, industrial radiography, well logging, nuclear pharmacy, academic broad scope, academic/medical broad scope, portable gauge, and reciprocity. Appendix C lists the inspection casework files reviewed for completeness and adequacy with case-specific comments.

Utah's inspection procedures are consistent with NRC procedures. Inspections are routinely unannounced. The review team noted that, of the 10 inspections evaluated, only one was announced, this inspection was an initial inspection.

Based on casework, the review team noted that routine inspections covered all aspects of the licensees' radiation programs. The team noted that the inspections are both compliance oriented and performance-based. Field notes have been developed to cover all types of inspections that are conducted by the Division. These field notes provide documentation for the scope of the licensees' program and cover all areas that need to be reviewed. The information contained in the field notes is comparable with NRC's Inspection Procedure 87100. The inspectors also include various performance-based inspection techniques, such as direct observation of licensed activities, demonstrations, interviews, etc., when appropriate. Team inspections were performed when appropriate and for training purposes.

The inspection findings are issued under the signature of the Executive Secretary of the Utah Radiation Control Board, after a review of the inspection report by a peer and the approval by the Materials Section Manager. Inspection findings are routinely sent to the licensee well within 30 days. Licensee responses are reviewed and replied to in a timely manner. The inspection files were found to be complete and in good order.

The Materials Section Manager has accompanied all four of the inspectors, who conduct inspections of radioactive material licensees, at least annually since the last review.

During the week of May 5, 2003, a review team member performed accompaniments of two of the Materials Section's four inspectors on separate inspections of licensed facilities (see Appendix C). The inspections were of a nuclear pharmacy, a medical institution, and a portable gauge licensee. During the accompaniments, inspectors demonstrated appropriate inspection skills and knowledge of the regulations. The inspectors were well prepared and thorough in the review of licensee programs. The technical performance of both inspectors was excellent. The inspections were adequate to assess radiological health and safety at the licensed facilities.

The Division has available a variety of portable instruments for routine confirmatory surveys and use in incidents and emergency conditions. The instruments are calibrated annually, or as needed. The calibrations are done by the Division RSO, using a one curie cesium-137 source in a J. L. Shepherd calibrator and an electronic pulser for exposure rate instruments. Instruments used for contamination surveys are calibrated with a variety of alpha and beta sources.

by information contained in the file, and are inspectable. Deficiency letters clearly state regulatory positions, are used at the proper time, and identify deficiencies in the licensees' documents. Terminated licensing actions are well documented, showing appropriate transfer and survey records. License files are complete and well organized. Applicable guidance documents are complete, well organized, available to reviewers, and appear to be followed.

Safety and security issues for all uses of radioactive material are being addressed throughout the licensing process and/or through the use of license conditions, particularly in the safety and security of portable gauges.

The review team noted that license reviewers also work as inspectors. The review team identified several occasions when the results of an inspection were used in an effective manner to improve a license through either a licensing amendment or renewal. Similarly, license reviewers also mark items for follow-up during routine inspections of those licensees.

The review team found that in 2001, the NRC transferred six files to the Division for follow-up and eventual closure. The NRC terminated these sites before the State of Utah became an Agreement State. The Program accepted the challenge to assist the NRC in this extremely important project. The Division has dedicated sufficient time and resources to ensure the closure of the files, while continuing to protect radiological health and safety. The review team noted that these six files should be closed by the end of the year. The status of these may be found in Appendix D.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Utah's performance with respect to the indicator, Technical Quality of Licensing Actions, was satisfactory.

3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the Division's actions in responding to incidents, the review team examined the Division's responses to the questionnaire relative to this indicator, reviewed the incident reports for Utah in the Nuclear Material Events Database (NMED) against those contained in the Division files, and evaluated reports and supporting documentation for 13 incidents. A list of the incident casework examined with case-specific comments is included in Appendix E. The review team also reviewed the Division's response to 18 allegations involving radioactive material and the low-level radioactive (LLRW) waste site, including 6 allegations referred to the Division by the NRC during the review period.

The incidents selected for review included the following categories: lost/stolen material, leaking sources, contamination, loss of control, and damaged equipment. The Division has excellent written guidance for handling of incidents in their "Administrative Policy" manual. When notification of an incident is received, the appropriate Section Manager and the staff discuss what level of initial response is appropriate. The review team found that the Division's response to incidents was complete and comprehensive. Initial responses were prompt and well-coordinated, and the level of effort was commensurate with the health and safety significance. The Division dispatched inspectors for on-site investigations when appropriate, and took suitable enforcement and follow-up actions.