DATED: FEBRUARY 9, 1999 SIGNED BY: FRANK J. MIRAGLIA, JR.

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

Dear Dr. Nielson:

On February 1, 1999, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Utah Agreement State Program. The MRB found the Utah program adequate to assure public health and safety and compatible with NRC's program.

Section 5.0, page 13, of the enclosed final report presents the IMPEP team's recommendation and suggestion. We received Mr. Sinclair's January 12, 1999 letter which described the actions taken in response to the recommendations in the draft report. We request no additional information.

Based on the results of the current IMPEP review, the next full review will be in approximately 4 years.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review and your support of the Radiation Control Program. I look forward to our agencies continuing to work cooperatively in the future.

Sincerely, **/RA/**

Frank J. Miraglia, Jr.
Deputy Executive Director
for Regulatory Programs

Enclosure:
As stated

cc: William J. Sinclair, Director
Division of Radiation Control
Department of Environmental Quality

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF UTAH AGREEMENT STATE PROGRAM

November 16-20, 1998

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 November 16-20, 1998 by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Tennessee. 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 25, 1997, revised NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period June 18, 1994 to November 20, 1998, were discussed with Utah management on November 20, 1998.

A draft of this report was issued to Utah for factual comment on December 16, 1998. The State responded in a letter dated January 12, 1999. The Management Review Board (MRB) met on February 1, 1999, to consider the proposed final report. The MRB found the Utah radiation control program was 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 (DRC) located in the Department of Environmental Quality (DEQ). Organization charts for the DRC and DEQ are included as Appendix B. The Utah program regulates approximately 214 specific licenses authorizing agreement materials. 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 State on September 3, 1998. The State provided a response to the questionnaire on October 19, 1998. A copy of the questionnaire is included in Appendix F to the draft report.

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 DRC licensing and inspection database; (4) technical review of selected licensing and inspection actions; (5) field accompaniments of two 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 indicator and made a preliminary assessment of the DRC's performance.

Section 2 below discusses the State'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 performance indicators, and Section 5 summarizes the review team's findings and recommendations. Recommendations made by the review team are comments that relate directly to program performance by the State. A response is requested from the State to all recommendations in the final report. Suggestions are comments the review team believes could enhance the State's program. The State is requested to consider suggestions, but no response is requested.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

The previous review of the Utah radiation control program concluded on June 17, 1994. The review consisted of an evaluation of 30 program indicators per the 1992 Policy Statement. In conjunction with the review, a pilot IMPEP review using common performance indicators was also performed. The review conducted under the 1992 Policy Statement was the review of record.

The following is an open recommendation from the April 1992 Review and August 1993 Review Visit as well as the current status:

> We recommend that the State provide documentation in their Safety Evaluation Report, Ground Water Discharge Permit Statement of Basis or other such document, how the site meets regulatory standards for the off-site release of radioactivity.
>
> 1994 Status: The Utah State Division of Water Quality (DWQ) is in the process of revising the Ground Water Quality Discharge Permit for the Envirocare Low-Level Radioactive Waste Disposal Facility. As part of the Statement of Basis for the revised ground water quality discharge permit, the DWQ plans to provide documentation on the conclusion reached that the site meets regulatory standards. The basis will conclude that because of the high total dissolved solids content of the shallow ground water at the Envirocare facility, the ground water pathway would not be considered as a realistic pathway in a pathway dose assessment required by 10 CFR Part 61. The ground water quality at the facility is being protected under Utah ground water quality protection regulations in that for a five hundred year period the ground water pathway will contribute less than four millirem per year at any ground water monitoring well. The revised draft permit is expected to be issued for public comment within the next 3 months. NRC requested that Utah transmit a copy of the draft permit for comment to NRC at the beginning of the public comment period.
>
> Current Status: Envirocare has a Ground Water Quality Discharge Permit in accordance with the Utah Water Quality Act. The permit is renewed on a five-year frequency. The current permit, with an expiration date of September 10, 1998, is under timely renewal. This recommendation is closed.

During the last review, 13 recommendations were made in the December 6, 1994 letter to Dianne Nielson, Executive Director, DEQ. Nine items were closed in the May 5, 1995 letter to Utah based on the State's September 21, 1994 and March 17, 1995 response letters. Two additional items were closed in NRC's November 8, 1997 letter which responded to Utah's September 17, 1997 letter. The team's review of the current status of the remaining open recommendations is as follows:

1. We recommend that the State of Utah review the problems that caused the State to adopt a delayed implementation approach and to take actions for future rulemaking so that the State of Utah can implement promulgated regulations without delay.

   Current Status: The State no longer uses a delayed implementation approach to rulemaking. Promulgation of regulations is up-to-date, with no regulations overdue for adoption. This recommendation is closed.

2. To assure continuity and uniformity in regulatory practice, we recommend that the DRC take the necessary steps to complete its revision of these procedures and provide them to all employees.

   Current Status: The Administrative Policy Document, which includes inspection, licensing, enforcement and administrative procedures, has been finalized and is available to all employees. 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) Status of Materials Inspection Program; (2) Technical Quality of Inspections; (3) Technical Staffing and Training; (4) Technical Quality of Licensing Actions; and (5) Response to Incidents and Allegations.

3.1 Status of Materials Inspection Program

The team focused on four factors in reviewing this indicator: inspection frequency, overdue inspections, initial inspection of new licensees, and timely dispatch of inspection findings to licensees. The review team's evaluation is based on Utah's questionnaire responses relative to this indicator, data gathered independently from the State's licensing and inspection computer printouts, the examination of completed inspection casework, and interviews with the staff.

The team's evaluation of the State's inspection priorities showed that the State's inspection frequencies for the various types or groups of licenses are the same or more frequent than similar license types or groups listed in the NRC Inspection Manual Chapter (IMC) 2800. Two categories, Research and Developmental - Broad, multisite-multiregional and Strontium-90 Eye Applicator, had inspection frequencies greater than the interval outlined in IMC 2800; however, the State has no licensees in these categories and the inspection frequencies were changed, during the review, to match the inspection frequencies in IMC 2800. It was noted that the State has utilized their procedures to increase or decrease the next inspection frequency, based on the licensee's inspection history.

The staff uses a database for their tracking system in which information is exported to Excel software to generate reports. 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.

In their response to the questionnaire, the State indicated that they had no inspections overdue by more than 25% of the NRC frequency. During the week of the review, the team verified that there were no inspections that were overdue by this frequency.

With respect to initial inspections of new licensees, a list of licenses issued since the last review was requested and the licensees' respective inspection files were reviewed to determine their initial inspection date. There were 50 licenses issued since the last review, of these 4 are still within the six month inspection frequency; 5 have been terminated so they were not reviewed; 37 were inspected within six months; 2 others were inspected within seven months; and the remaining 2 were inspected at around one year (both of these licenses were issued in 1994).

The timeliness of the issuance of inspection findings was evaluated during the inspection casework review. With two exceptions, inspection correspondence was sent within 30 days after the inspection. One of those exceptions was due to the request of the licensee's corporate radiation safety officer (RSO) for a face-to-face close out meeting and the other was sent at 41 days after the inspection. Licensee responses were received and responded to in a timely manner.

In their response to the questionnaire, Utah reported that as of fiscal year 1999 (starting July 1,1998) they have adopted the inspection frequencies for reciprocity outlined in NRC IMC 1220. Thus far in the fiscal year, the State has met the objectives for priority 1 reciprocity inspections, but none of the other priorities. The previous year reciprocity inspections also showed that prior to the adoption of IMC 1220, the State would have only met the priority 1 inspection goal. The review team recommends that the State continue in their ongoing efforts to meet the reciprocity inspection frequencies outlined in IMC 1220.

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

3.2 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and interviewed inspectors for 20 radioactive material inspections conducted during the review period. Currently there are two Environmental Scientist (ES) III inspectors who conduct radioactive material inspections. A cross training effort has been initiated with other inspectors in the x-ray program. The casework included both inspectors and covered inspections of various types including, medical institutions, industrial radiography, well logging, nuclear pharmacy, irradiator, academic broad scope, academic/medical broad scope, decontamination services, and reciprocity. Appendix C lists the inspection casework 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 20 inspections evaluated, only one was announced, this was due to the inability to perform an inspection after an unannounced attempt.

Based on casework, the review team noted that the routine inspections covered all aspects of the licensees' radiation programs. The team noted that the inspections are performance-based. Team inspections were performed when appropriate and for training purposes.

The inspection findings are issued under the signature of the DRC Director, after a review of the inspection report by a peer and the approval of the Radioactive Materials & X-ray (RM&X) Section Manager. Inspection findings are routinely sent to the licensee within 30 days with licensee responses returned in a timely manner. Those responses are reviewed and replied to in a timely manner. The inspection files were found to be complete and in good order. Field notes have been developed to cover all types of inspections that are conducted by the DRC. 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.

As noted in the questionnaire, the State has available a variety of portable instruments for routine confirmatory surveys and use in incidents and emergency conditions. The instruments are calibrated on an annual, or as needed, basis. The calibrations are done by an ES III on staff 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.

The RM&X Section Manager has accompanied both ES III inspectors, who conduct inspections of radioactive material licensees, on an annual basis since the last review.

During the week of November 2, 1998, a review team member performed accompaniments of the two State inspectors on separate inspections of licensed facilities (see Appendix C). The inspections were of two industrial radiography licensees. 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. Inspection techniques were observed to be performance-oriented and the technical performance of both inspectors was excellent. The inspections were adequate to assess radiological health and safety at the licensed facilities.

The use of an inspection compliance history form both for the materials program and the low-level radioactive waste disposal program was noted as a good practice during the review. The compliance history form includes all of the past inspection findings for the facility and is used not only to help the inspector prepare for the inspection, but also as a teaching tool during the inspection to help the licensee better understand the issues and past history of the licensee's performance.

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

3.3 Technical Staffing and Training

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

At the time of the review, Utah's radioactive materials program was staffed by the DRC Director, two Section Managers, 13 full-time ES IIIs, one Environmental Engineer III, and one ES IV. The DRC organization consists of the RM&X Section, Waste and Environmental (W&E) Section and Administration. The work assignments were divided as follows: 4.7 FTE assigned to radioactive materials inspection/licensing activities, 4.0 FTE to the low-level waste program, 4.9 FTE to the X-ray/mammography program, 0.2 FTE to the uranium mills program, and 0.2 FTE to the radon program. No technical staff members have left the RM&X Section since the last review. There are no vacancies in either the RM&X Section or the W&E Section. A vacant ES III position identified during the last review was filled in February 1995. In March 1997, one new staff member (ES III geologist) was hired into the low-level waste program.

The qualifications of the staff were determined from the questionnaire, training records, and interviews of personnel. The DRC has a training program in place for the staff which is taken

from the “NRC/OAS Working Group Recommendations for Agreement State Training Programs.” The staff are well qualified from an education and experience standpoint. All have Bachelor’s degrees in the sciences. The primary license reviewers/inspectors have attended most of the training courses prescribed by IMC 1246 and are very familiar with Utah regulations, policies, and procedures. However, the team noted that no one has attended the core course, Teletherapy and Brachytherapy. The team believes all technical staff performing brachytherapy licensing or inspections would benefit from the course or equivalent training. Also, it was noted that no staff member has completed the NRC-sponsored Irradiator Technology course or equivalent training, and the State licenses one pool irradiator. Although the irradiator course is a supplementary or specialized course, the team believes that training in this area is needed and that staff performing licensing actions or inspection activities on pool irradiators should have the irradiator course or equivalent training. The team’s evaluation of inspection and licensing actions involving medical brachytherapy and irradiator programs did not identify deficiencies related to lack of training in these areas. The State’s team approach, including assistance from NRC’s Region IV office, produced quality inspection and licensing products. The team believes that increased training in these areas, however, will enhance the program. The review team suggests that the State provide training to technical personnel, either by formal coursework or equivalent, in the areas of medical brachytherapy and irradiator technology.

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

3.4 Technical Quality of Licensing Actions

The review team examined completed licenses and casework for 21 licensing actions, representing the work of five license reviewers and RM&X Section Manager. The license reviewers and supervisor were interviewed to supply additional information regarding licensing decisions or file contents.

Licensing actions were evaluated for completeness, consistency, proper isotopes and quantities used, 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 and of 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, peer or supervisory review, and proper signature authorities. The files were checked for retention of necessary documents and supporting data.

The licensing actions reviewed included the following types of licenses: academic/medical broad scope; academic broad scope; pool irradiator; self-shielded irradiator; industrial radiography; well logging; large medical; small medical; research and development; portable gauge; and fixed gauge. Licensing actions included four new licenses, nine amendments, five renewals, and three terminations. A list of these licenses with case-specific comments may be found in Appendix D.

The review team noted that each licensing action is thoroughly reviewed by a second, qualified reviewer. In addition, complex cases are completed using a team of reviewers, including the RM&X Section Manager, and often include frequent interactions with senior NRC reviewers. Moreover, every tenth action, and most complex actions, are reviewed by the RM&X Section

Manager. The RM&X Section Manager's review includes the use of a checklist. Each license is signed by the DRC Director or designee.

The review team found that the licensing actions were thorough, complete, consistent, and of high quality, with health and safety issues properly addressed. Tie-down conditions are backed 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. Finally, applicable guidance documents are complete, well organized, available to reviewers, and appear to be followed.

The review team noted that the reviewers also work as inspectors. The review team identified three occasions when the results of an inspection were used in an effective manner to improve a license through either a licensing amendment or renewal.

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

3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the State's actions in responding to incidents, the review team examined the State's response to the questionnaire regarding this indicator, evaluated selected incidents reported for Utah in the "Nuclear Material Events Database" (NMED) against those contained in the Utah files, and evaluated the casework and supporting documentation for 11 material incidents. The team also evaluated the State's response to 11 materials allegations and three low-level waste allegations. One materials allegation and three low-level waste allegations were referred to the State by NRC during the review period. A list of incident casework examined along with case specific comments is contained in Appendix E.

The review team interviewed DRC management and staff to discuss the State's incident and allegation process, file documentation, the State's equivalent to the Freedom of Information Act, NMED, and notification of incidents to the NRC Operations Center.

When notification of an incident or an allegation is received, the RM&X Section Manager and staff normally meet to discuss the initial response and the need for an on-site investigation. The safety significance of the incident/allegation is evaluated to determine the type of response that Utah will take. The DRC has written guidance for handling incidents and allegations in their "Inspection Guidance Procedures" manual.

The 11 incidents selected for review, out of the 46 total reported, included radiation alarm events at landfills and steel manufacturers, damaged portable gauge equipment, and a radiographer overexposure. The review team found that the State's responses to incidents and allegations were complete and comprehensive. Initial responses were prompt and well-coordinated. In fact, in all cases, the DRC responded either the first day or within 2-3 working days after notification of the event. The level of effort was commensurate with the health and safety significance. Inspectors were dispatched for on-site investigations when appropriate and the State took suitable enforcement action. The review team found the documentation of the incidents to be consistent and that incidents were followed up at the next inspection or in a timely fashion.

The staff was familiar with the guidance contained in the "Handbook on Nuclear Event Reporting in the Agreement States," although there was some confusion of the reporting requirements. After a review of the incidents and discussions with staff, the review team found that one of the incidents, an overexposure, had not been previously voluntarily reported to the NMED system. The incident involved an overexposure of a radiographer in January 1998, as discussed in Appendix E. The DRC reported the overexposure to the NMED system prior to the end of this review.

During the review period, there was one materials allegation referred to the State by the NRC and 10 allegations reported directly to the program. The review of the State's allegation file indicates that the State took prompt and appropriate action in response to the concerns raised. The review team noted that all documentation related to the investigation of allegations was appropriately maintained in a separate file.

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

4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State programs: (1) Legislation and Program Elements Required for Compatibility; (2) Sealed Source and Device Evaluation Program; (3) Low-Level Radioactive Waste Disposal Program; and (4) Uranium Recovery Program. Utah's Agreement does not include a uranium recovery program, so only the first three non-common performance indicators were applicable to this review.

4.1 Legislation and Program Elements Required for Compatibility

4.1.1 Legislation

Utah became an Agreement State in 1984. Title 19, Chapter 3 of the Utah Code contains the Radiation Control Act. The Act was amended in 1992 to establish a Radiation Control Board comparable to boards established for the other divisions within the DEQ. In 1994, an amendment to the law further delineated the duties and responsibilities of the Radiation Control Board. The Board is vested with overall responsibility for the program, with the Board's Executive Secretary, the DRC Director, carrying out day-to-day responsibilities.

The Board has 11 members, appointed by the Governor: the DEQ Executive Director, two members of the public, a dentist, a physician, a health physicist, a representative from the radioactive waste management industry, an academic representative, an industry representative, and representatives from a local health department and a county government. Board members are provided a copy of the Radiation Control Board Conflict of Interest policy and are required to complete conflict of interest forms.

The review team examined Board meeting minutes and completed conflict of interest forms. It was noted that the meeting minutes occasionally identified instances in which Board members would recuse themselves from matters in which they had a conflict of interest.

4.1.2 Program Elements Required for Compatibility

The Utah regulations for radiation control, found in Utah Administrative Rules R313, apply to all ionizing radiation, whether emitted from radionuclides or devices. Utah requires a license for possession and use of all radioactive material including naturally occurring materials, such as radium, and accelerator-produced radionuclides.

The review team examined the State's administrative rulemaking process and found that the process takes approximately three months after filing a draft administrative rule. Draft administrative rules are sent to the Radiation Control Board for permission to get public comments and to file the proposed rule. The draft rules are published in the State Bulletin. After a public comment period, the rule is returned to the Radiation Control Board for final approval. The State has the authority to issue legally binding requirements (e.g., license conditions) in lieu of regulations until compatible regulations become effective.

Each state agency must review each of its administrative rules every five years to be retained in the Utah Administrative Code. The purpose of the review is to remind agencies to amend or repeal rules that are no longer necessary. The review team examined a status summary for the five-year review of radiation control rules.

The team evaluated Utah's responses to the questionnaire and reviewed the status of regulations required to be adopted by the State during the review period. All regulations required to be adopted are currently in effect. Discussions with program staff indicated a good awareness of recently adopted rules. Some NRC regulations are adopted by reference, including 10 CFR Part 34 industrial radiography rules.

The following regulations will become due in the future and are included here to remind the State of the need to address them in rulemakings or by adopting alternate generic legally binding requirements:

- "Compatibility with the International Atomic Energy Agency," 10 CFR Part 71 amendment (60 FR 50248) that became effective April 1, 1996. DRC currently has this rule in process and expects it to be adopted by March 1999.

- "Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State," 10 CFR Part 150 amendment (62 FR 1662) that became effective February 27, 1997.

- "Radiological Criteria for License Termination," 10 CFR Parts 20, 30, 40, and 70 amendments (62 FR 39057) that became effective August 20, 1997.

- "Exempt Distribution of a Radioactive Drug Containing One Microcurie of Carbon-14 Urea," 10 CFR Part 30 amendment (62 FR 63634) that became effective January 2, 1998. DRC currently has this rule in process and expects it to be adopted by March 1999.

- "Deliberate Misconduct by Unlicensed Persons," 10 CFR Parts 30, 40, 61, 70, and 150 amendments (63 FR 1890 and 13773) that became effective February 12, 1998.

It is noted that Management Directive 5.9, Handbook, Part V, (1)(c)(iii), provides that regulations required for compatibility issued prior to September 3, 1997, should be adopted by the State as expeditiously as possible, but not later than 3 years after the September 3, 1997 effective date of the Commission Policy Statement on Adequacy and Compatibility, i.e. September 3, 2000.

Based on the IMPEP evaluation criteria, the review team recommends that Utah's performance with respect to the indicator, Legislation and Program Elements Required for Compatibility, be found satisfactory.

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

Effective June 1, 1996, NRC reassumed regulatory authority for sealed source and device evaluations in Utah, in response to a request from the State to relinquish that authority. No sealed source or device evaluations were performed in Utah in the early part of the review period, prior to relinquishment. Accordingly, the review team did not evaluate this indicator.

4.3 Low-Level Radioactive Waste Disposal Program

This non-common performance indicator was used by the review team to evaluate the low-level radioactive waste (LLRW) disposal regulatory program in the State of Utah and included assessment of the following sub-indicators: (1) Status of LLRW Disposal Inspection Program; (2) Technical Quality of Inspections; (3) Technical Staffing and Training; (4) Technical Quality of Licensing Actions; and (5) Response to Incidents and Allegations. Because Envirocare of Utah (hereafter referred to as Envirocare) is the only operating LLRW disposal site in the State of Utah, the major portion of this evaluation involves an assessment of the State's regulation of the Envirocare facility. Envirocare holds Utah License No. UT 2300249.

4.3.1 Status of Low-Level Radioactive Waste Disposal Inspection Program

Since the State of Utah has adopted NRC inspection guidance and procedures, the review team examined inspection files and conducted interviews with inspectors to determine: (1) if the LLRW disposal licensee is inspected at least as frequently as the intervals prescribed in IMC 2800; (2) whether deviations from the prescribed frequencies in IMC 2800 are normally coordinated between working staff and management; and (3) whether inspection findings are communicated to licensees in a timely manner, as specified in IMC 0610-10.

The review team determined that, through an examination of the State's inspection files and interviews with State inspectors, the State conducts an annual inspection at Envirocare, in accordance with the frequency required by IMC 2800, for a priority one facility. In addition, the State has also conducted what are called "daily inspections" at the Envirocare facility. These daily inspections resulted in an inspection frequency that is over and above the prescribed frequency and normally occurred three out of five business days a week in support of the State's announced goal of sixty percent full time inspection coverage. There has been no reduction from the prescribed IMC 2800 frequency, in fact, the State has exceeded the prescribed frequency contained in IMC 2800.

The review team finds that, for the period evaluated during this review, the State has also met the recommendation of IMC 2800 to communicate inspection findings to the licensee within a 30-day period.

4.3.2 Technical Quality of Inspections

The review team assessed the quality of LLRW disposal inspections by determining whether: (1) accompaniments and on-site review of inspection files indicate well founded and well documented inspections findings; (2) inspection field notes and completed reports indicate that most inspections are complete and promptly reviewed by management; (3) procedures are in place for identifying root causes and poor licensee performance; (4) following inspections, inspectors address previously identified open items or past violations; (5) inspection findings lead to appropriate and prompt regulatory action; and (6) supervisors accompany inspectors on an annual basis.

Supervisory accompaniments have been conducted for each LLRW inspector during the past two years and in many cases supervisory accompaniments exceed the recommended frequency of one per year, as inspections have often been conducted with teams of two or three inspectors. The findings in the two annual inspections reviewed for this assessment are well documented in annual inspection reports. Daily inspection findings and observations are maintained in an inspection log with detailed observations and descriptions, and field notes reflecting findings during ongoing operations. Daily findings are noticed in the daily documented working log and followed up on the next inspector visit. The W&E Section Manager reviews the inspection findings and periodically issues enforcement letters to the licensee. Each annual inspection report has been reviewed and signed by management and inspection findings and observations are tracked to completion. All open items from the previous year's inspection files were either closed out or scheduled for follow-up action during the 1997 annual inspection.

The State has generated a database showing a "Breakdown of Violations" versus severity level for various categories of violations. This is a good State practice and this system is valuable in assessing which Envirocare LLRW disposal operations are most prone to violations. This database also assists in establishing the root cause for violations. This is identified as a "good practice" as identified in Section 3.2.

4.3.3 Technical Staffing And Training

Issues central to the evaluation of this indicator include: (1) whether qualification of the technical staff are commensurate with expertise necessary to regulate a LLRW disposal facility; (2) whether management has developed and implemented a training program for the staff; and (3) if staffing trends that could have an adverse impact on the quality of the program are tracked, analyzed, and addressed.

The W&E Section staffing has essentially remained unchanged since the beginning of the program. There are seven staff members in the section and the W&E Section Manager who supervises both licensing reviews and inspections. An assessment was performed of the staff's education and experience against the "NRC/OAS Training Working Group Recommendations for Agreement State Training" and "Suggested State Requirements and Criteria for a Low-Level Radioactive Waste Disposal Site Regulatory Program." The assessment indicates that the staff is qualified in the technical and administrative areas addressed in these documents. Individual W&E Section staff training documentation indicates that the State has identified some of the core courses, that NRC requires for inspection and licensing qualification for its staff, as necessary for State staff training. The review team noted that the State has not developed individual training plans for the technical staff which could be utilized for projecting training needs and as a career enhancement tool.

4.3.4 Technical Quality of Licensing Actions

Evaluation of this indicator requires an assessment to determine that: (1) pre-licensing interaction with the applicant is occurring on a regular basis; (2) special license tie-down conditions are usually stated clearly and are able to be inspected; (3) deficiency letters clearly state regulatory positions and are used at the proper time; (4) reviews of amendments and renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history; (5) applicable guidance documents are available to reviewers and are generally followed; (6) public hearings, in accordance with State administrative laws, have occurred; (7) review of certain technical aspects of the LLRW licensing files indicate that reviews are generally thorough, complete, consistent, and of acceptable technical quality;
(8) health and safety issues are properly addressed; and (9) evaluation of the license review process indicates that the process is thorough and consistent.

In June 1997, the State received a siting application from Laidlaw Environmental Services (now Safety Kleen) for the construction and operation of a low-level waste disposal facility in Tooele County, Utah. The proposed facility would be known as the Grassy Mountain Facility. The State has met on several occasions with the potential licensee and provided guidance in such areas as siting, pre-operational monitoring, construction and operational phases of a low-level waste disposal facility. The State reviewed and approved the siting criteria in the Laidlaw's siting application. This is the first step in the State's licensing process for a new LLRW facility.

In October 1998, the State completed a review of the Envirocare license renewal application for the Envirocare low-level waste disposal site. In order to determine if the State makes use of inspection and enforcement history during the renewal process, the review team tracked two significant inspection findings regarding: (1) the requirement for the licensee to develop a "test pad" (to assure the use of clay with the correct properties, equipment with the correct specifications, and to assure that the correct test procedures were used); and (2) the requirement that the licensee meet the possession limit (350 gram mass limit) and individual shipment limits for special nuclear material (SNM).

In the first instance, an inspection finding, in October 1996, revealed that Envirocare failed to follow approved procedures regarding installation of a disposal liner and development of a test pad. Follow-up documentation shows that the State required the applicant to revise the renewal application and incorporate additional procedures for developing a plan, to be submitted to the Executive Secretary of the Utah Radiation Control Board, in advance, when a test pad would be developed. The newly amended license contains Condition No. 35 which clearly supports this requirement.

In May 1997, the second finding (regarding possession of SNM over the 350 gram limit) was made, apparently because the licensee was receiving material that exceeded stated license concentration limits but then engaged in down-blending once the material reached the Envirocare site. Condition No. 13 of the license is now written to consider any waste containing SNM, not disposed on the day delivered, as in possession of the license. Thus, this material is now counted against the 350 gram possession limit.

The review team evaluated documentation of State meetings with the licensee to discuss the compliance history. The DRC Director met personally with the President of Envirocare in this regard. Weekly meetings attended by Envirocare and DEQ staff are held in the State offices. The State's procedures require that before reviewing a license in category 1, 2, or 3, that the

compliance history of the license should be checked to determine whether additional requirements should be part of the license.

4.3.5 Response to Incidents and Allegations

During the review period, there were three allegations involving LLRW referred to the State by the NRC. In 1997, an allegation that Envirocare was accepting shipments containing quantities of uranium-235 that exceeded their possession limit was referred to Utah. The State performed an inspection, which resulted in a Notice of Violation and civil penalties. Also in 1997, an allegation was referred to Utah that Envirocare failed to include ground water modeling in the site safety analysis. The State sent information to the NRC in April 1998 which indicated that ground water monitoring studies had been provided and were very conservative. The third allegation is currently under review by the Utah State Attorney General's office.

The review of the State's allegation file indicates that the State took prompt and appropriate action in response to the concerns raised. The review team noted that all documentation related to the investigation of allegations was appropriately maintained in a separate file.

Based on the IMPEP evaluation criteria, the review team recommends that Utah's performance with respect to the indicator, Low-Level Radioactive Waste Disposal Program, be found satisfactory.

5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found Utah's performance to be satisfactory for all of the indicators. Accordingly, the review team recommended and the MRB concurred in finding the Utah Agreement State Program to be adequate to protect public health and safety and compatible with NRC's program.

Below is a summary list of recommendations and suggestions, as mentioned in earlier sections of the report, for implementation and evaluation, as appropriate, by the State. Also, the "good practice" noted in the report is identified.

RECOMMENDATION:

The review team recommends that the State continue in their ongoing efforts to meet the reciprocity inspection frequencies outlined in IMC 1220. (Section 3.1).

SUGGESTION:

The review team suggests that the State provide training to technical personnel, either by formal coursework or equivalent, in the areas of medical brachytherapy and irradiator technology. (Section 3.3).

GOOD PRACTICE:

The use of an inspection compliance history form both for the materials program and the low-level radioactive waste disposal program was noted as a good practice during the review. The compliance history form includes all of the past inspection findings for the facility and is used not only to help the inspector prepare for the inspection, but also as a teaching tool during the inspection to help the licensee better understand the issues and past history of the license. (Sections 3.2 and 4.3.2).

LIST OF APPENDICES AND ATTACHMENTS

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
James Lynch, Region III	Team Leader Legislation and Program Elements Required for Compatibility
Allen Grewe, Tennessee	Status of Materials Inspection Program Technical Quality of Inspections
Linda McLean, Region IV	Technical Staffing and Training Response to Incidents and Allegations
Michael Weber, Region III	Technical Quality of Licensing Actions
LeRoy Person, NMSS	Low-Level Radioactive Waste Disposal Program

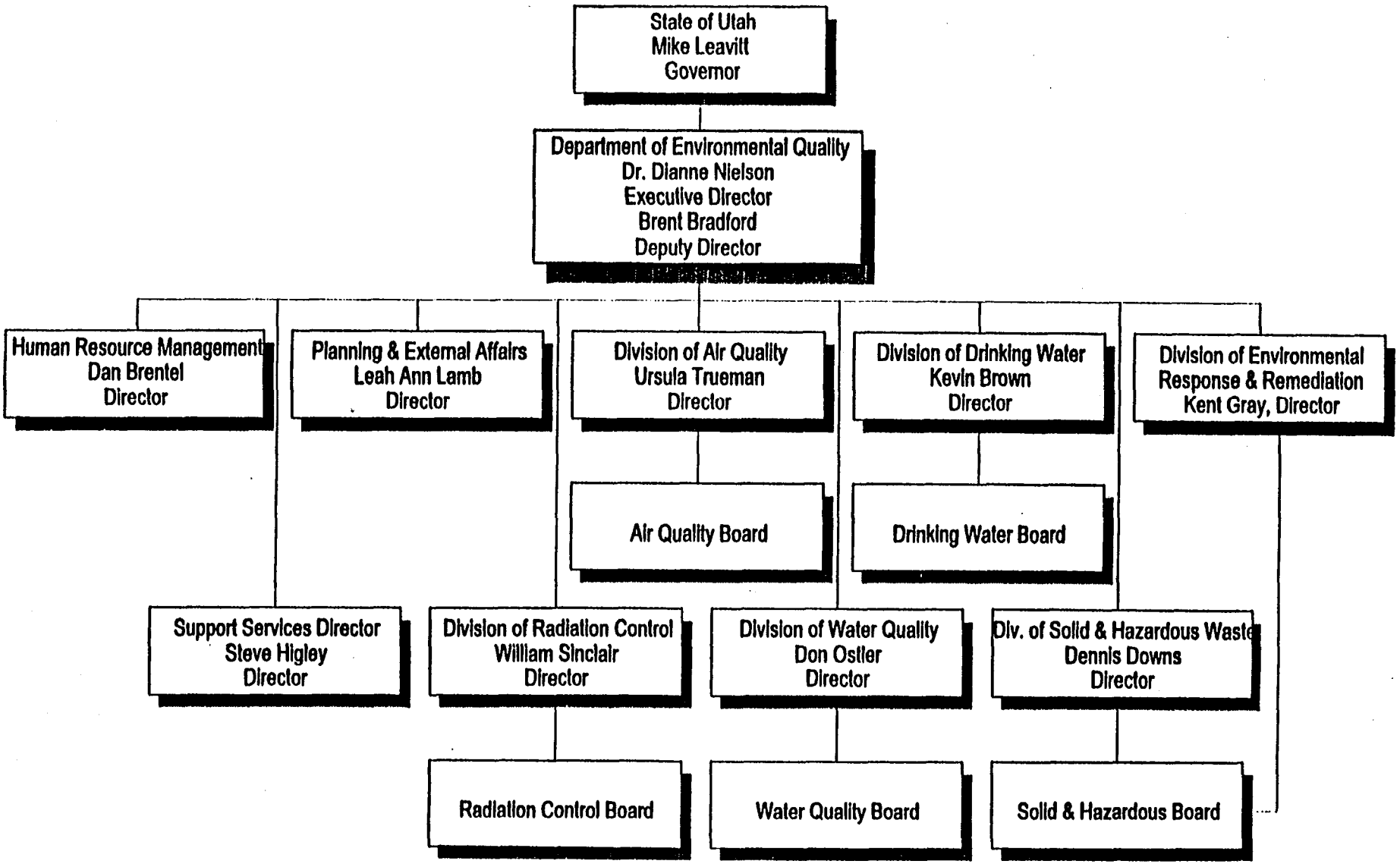
APPENDIX B

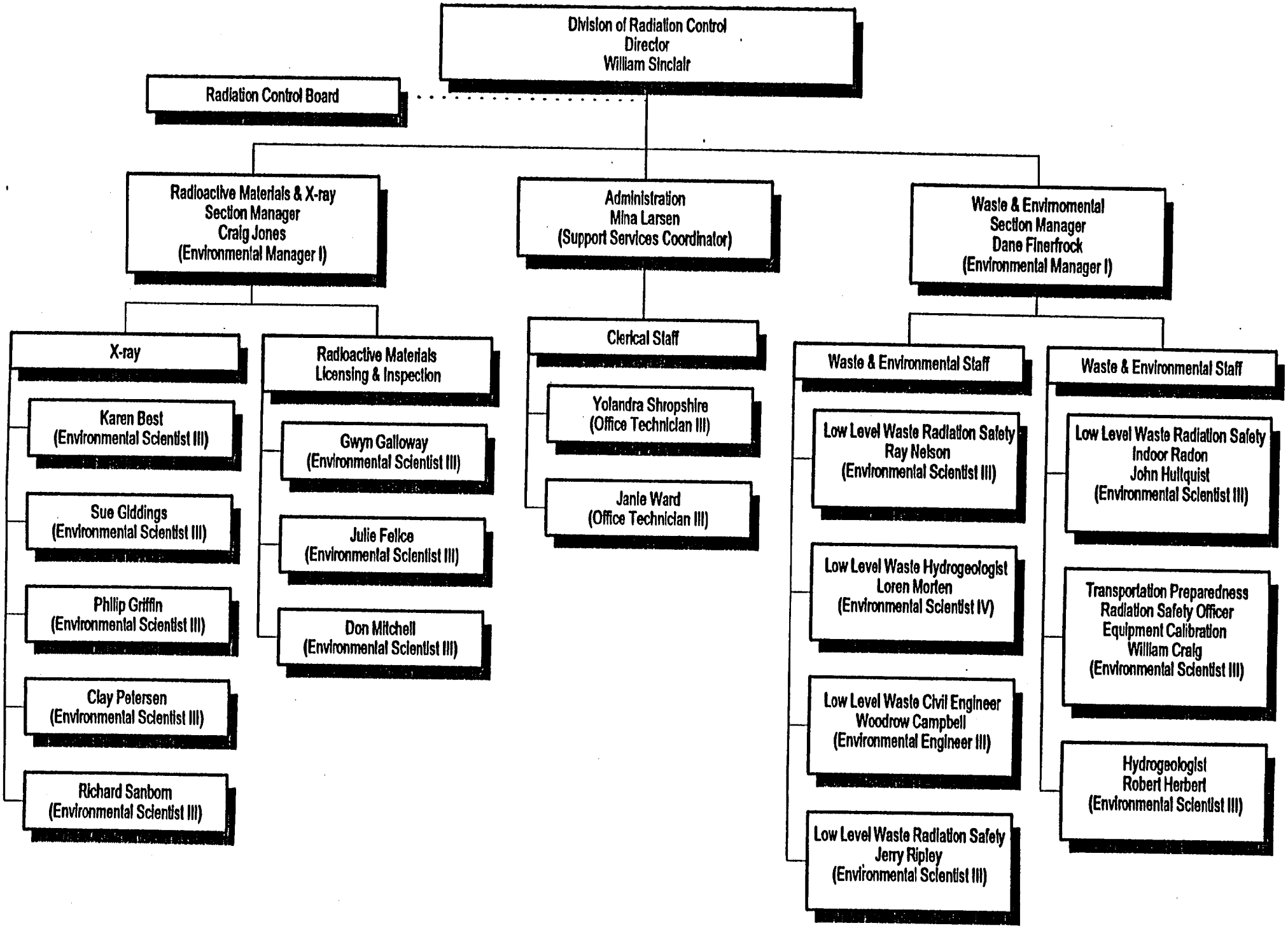
STATE OF UTAH

DEPARTMENT OF ENVIRONMENTAL QUALITY
and
DIVISION OF RADIATION CONTROL

ORGANIZATION CHARTS

Department of Environmental Quality Organizational Chart




Division of Radiation Control
Director
William Sinclair
Radiation Control Board
Radioactive Materials & X-ray
Section Manager
Craig Jones
(Environmental Manager I)
Administration
Mina Larsen
(Support Services Coordinator)
Waste & Environmental
Section Manager
Dane Finerfrock
(Environmental Manager I)
X-ray
Karen Best
(Environmental Scientist III)
Sue Giddings
(Environmental Scientist III)
Phillip Griffin
(Environmental Scientist III)
Clay Petersen
(Environmental Scientist III)
Richard Sanborn
(Environmental Scientist III)
Radioactive Materials
Licensing & Inspection
Gwyn Galloway
(Environmental Scientist III)
Julie Felice
(Environmental Scientist III)
Don Mitchell
(Environmental Scientist III)
Clerical Staff
Yolandra Shropshire
(Office Technician III)
Janie Ward
(Office Technician III)
Waste & Environmental Staff
Low Level Waste Radiation Safety
Ray Nelson
(Environmental Scientist III)
Low Level Waste Hydrogeologist
Loren Morten
(Environmental Scientist IV)
Low Level Waste Civil Engineer
Woodrow Campbell
(Environmental Engineer III)
Low Level Waste Radiation Safety
Jerry Ripley
(Environmental Scientist III)
Waste & Environmental Staff
Low Level Waste Radiation Safety
Indoor Radon
John Hultquist
(Environmental Scientist III)
Transportation Preparedness
Radiation Safety Officer
Equipment Calibration
William Craig
(Environmental Scientist III)
Hydrogeologist
Robert Herbert
(Environmental Scientist III)

disagree with the Recommendations as stated in the report. However, for the purposes of discussion, the following is offered regarding the recommendations:

Technical staffing and training

The draft IMPEP report recommends that the State provide training to technical personnel in the areas of medical brachytherapy and irradiator technology. The State appreciates the need for staff training. However, the review did not conclude that because of the "lack of" training in the areas of brachytherapy or irradiator technology that the inspection or licensing phases relating to both technologies were suffering or in question. When the NRC and the Organization of Agreement States were meeting on the issue of training, the question of evaluation of State equivalent training relating to IMPEP reviews was raised. The opinion of the States involved in the workgroup was that NRC needs not to raise any question regarding State training if the program demonstrates satisfactory performance. In the case where deficiencies could be identified in the inspection and licensing area, it would be necessary to take a more detailed look at the training issue. The Management Review Board may want to examine this as a policy question.

The IMPEP review team suggested a number of alternatives to attending and paying tuition/travel for the NRC courses. The State, in response to this recommendation and alternatives suggested by the team, has submitted applications for Radioactive Materials staff to attend the NRC courses on brachytherapy and irradiator technology on a "space available" basis. However, we note only two opportunities are offered for the brachytherapy course during 1999. No opportunity for the irradiator technology course by the NRC is outlined in the 1999 training schedule.

The State also has the course materials available from the Oak Ridge training center for the brachytherapy and irradiator technology course. If formal training does not become available during 1999, the staff will be requested to self-study the materials and demonstrate to the Radioactive Materials Section Manager a proficiency in the course materials. Such self-study and management sign-off will be included in the current training record. It was also recommended by the team that the State could contact the irradiator manufacturer, Nordion and arrange training. In our opinion, for the State of Utah, such contact and training could be viewed as inappropriate especially because of recent events occurring in the State with another licensee.

Status of the Material Inspection Program

In response to the questionnaire, we indicated that as of fiscal year 1999 (starting July 1, 1998), the inspection frequencies for reciprocity outlined in NRC IMC 1220 had been adopted. These frequencies are represented as "goals" in the draft IMPEP report. What are the NRC expectations for completion of the "goals?" If the expectations are that inspection frequencies for all priorities are strictly adhered to, then the "goal" is a "requirement." If States are to be judged during the IMPEP process on goals that actually are "requirements," there needs to be a policy clarification.

The State has focused and will continue to focus on meeting the inspection reciprocity frequencies in NRC IMC 1220.

Thank you for the opportunity to respond to the draft report.

Sincerely,

William J. Sinclair, Director

c: Dianne R. Nielson, Executive Director, UDEQ
Charles Hackney, NRC Region IV

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
William J. Sinclair
Director

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF RADIATION CONTROL

168 North 1950 West
P.O. Box 144850
Salt Lake City, Utah 84114-4850
(801) 536-4250
(801) 533-4097 Fax
(801) 536-4414 T.D.D.
www.deq.state.ut.us Web

JAN 13 1999
CSP

January 12, 1999 **Express Mail**

Paul Lohaus, Acting Director
Office of State Programs
Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Lohaus:

This correspondence is in response to the draft Integrated Materials Performance Evaluation Program (IMPEP) report of December 16, 1998. The Division of Radiation Control staff has reviewed the draft report and provides the following "technical corrections" for your consideration:

- Page 2, under "Current Status" relating to the Groundwater Discharge Permit (about mid-page), the report states that: "The permit is renewed a two-year basis . . . " This should be changed to indicated the permit is renewed on a five-year basis.

- Page 3, paragraph 3, first sentence under Status of Materials Inspection Program, should be revised to state: "The staff uses a database for their tracking system in which information is exported to Excel software to generate reports."

- Page 7, Item 3.5 (last paragraph): Reporting was optional until the Division received SP-98-040, "Guidance for Reporting Material Events on May 13, 1998." Upon receipt of the Guidance, it was recognized that such reporting became mandatory. The incident that is referred to in the Draft IMPEP report occurred in January 1998 (prior to receipt of SP-98-040) and was reported voluntarily.

- Page 12, paragraph 2: Reference is made to the "State received a license application." The State received a siting application, not a license application. The license application has not yet been submitted by Safety-Kleen.

The Division appreciated the thoroughness and quality of the IMPEP program review. Discussions between Division staff and IMPEP team members resulted in a mutual exchange of useful information. Movement toward a performance-based review was evident. The Division does not