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NUCLEAR REGULATORY COMMISSION
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October 7, 1998

Ed Kelley, Ph.D.
Director, Water and Waste Management Division
New Mexico Environment Department
Harold Runnels Building
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Dr. Kelley:

On September 28, 1998 the Management Review Board (MRB) met to consider the proposed final report documenting the Integrated Materials Performance Evaluation Program (IMPEP) follow-up review on the New Mexico Agreement State Program. The MRB found the New Mexico program adequate to protect public health and safety and compatible with NRC's program. The MRB acknowledged New Mexico's efforts to significantly strengthen their program over the past year.

Section 5.0, page 19, of the enclosed final report presents the IMPEP team's recommendation. Based on the results of the current IMPEP review, the next full review will be scheduled in three 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,

Hugh L. Thompson, Jr.
Deputy Executive Director
for Regulatory Programs

Enclosure:
As stated

cc: Benito Garcia, Chief
Bureau of Hazardous and Radioactive Materials
Water and Waste Management Division
New Mexico Environment Department

William Floyd
Bureau of Hazardous and Radioactive Material
Water and Waste Management Division

Richard Ratliff, Organization of Agreement States
Liaison to MRB

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bcc: Chairman Jackson
Commissioner Diaz
Commissioner McGaffigan

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
FOLLOW-UP REVIEW OF NEW MEXICO AGREEMENT STATE PROGRAM

JULY 7-10, 1998

FINAL REPORT

U. S. Nuclear Regulatory Commission

ENCLOSURE 1

1.0 **INTRODUCTION**

This report presents the results of the follow-up review of the New Mexico radiation control program conducted July 7-10, 1998. The follow-up review was conducted by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC). Team members are identified in Appendix A. The follow-up review was conducted in accordance with the "Policy Statement on Adequacy and Compatibility of Agreement State Programs," published in the Federal Register on September 3, 1997 (62 FR 46517), and the November 25, 1997, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." The follow-up review covered the State's response to, and resolution of, 29 recommendations and suggestions made during the July 14-18, 1997 IMPEP review. The follow-up review covered the status of the program since the 1997 review. Preliminary results were discussed with New Mexico management on July 10, 1998.

A draft of this report was issued to New Mexico for factual comment on August 6, 1998. The State responded in a letter dated August 18, 1998 (Attachment 1). The State's factual comments have been incorporated into the final report. The Management Review Board (MRB) met on September 28, 1998, to consider the proposed final report. The MRB found the New Mexico radiation control program adequate to protect public health and safety and compatible with NRC's program.

The New Mexico Environment Department is the agency within the State of New Mexico that regulates, among other public health issues, radiation hazards. The New Mexico Environment Department Secretary is appointed by and reports to the Governor. Within the Environment Department, the radiation control program is administered by the Radiation Licensing and Registration Program (RLRP) under the direction of the Hazardous and Radioactive Materials Bureau (HRMB). The New Mexico Environment Department and HRMB organization charts are included as Appendix B. The New Mexico program regulates approximately 245 specific licenses, including a megacurie pool irradiator, manufacturers, broad academic programs, broad medical programs, nuclear pharmacies and industrial radiographers.

The primary intent of this follow-up review was to close out programmatic deficiencies identified during the 1997 IMPEP review. Although not specifically evaluated during this review, the team observed other evaluation criteria, under the various indicators, to ensure those portions of the radiation control program remained adequate since the last review.

The review team's general approach for conduct of the follow-up review included:
(1) evaluation of the State's implementation of their program improvement plan that was accepted by the MRB at the October 23 and December 11, 1997 MRB meetings; (2) the status of the program during the period of July 19, 1997 - July 10, 1998; (3) review of the status of applicable New Mexico statutes and regulations; (4) review of quantitative information from the radiation control program licensing and inspection database; (5) technical review of selected inspection, licensing and incident response program documentation for response to issues identified during the previous review; and (6) interviews with staff and management to answer questions or clarify issues. The team evaluated the information that it gathered against the IMPEP performance criteria for each common and non-common performance indicator and made a preliminary assessment of the radiation control program's performance.

2.0 **STATUS OF PREVIOUS REVIEW**

The previous routine IMPEP review, conducted on July 14-18, 1997, resulted in a finding for New Mexico that the radiation control program was "adequate to protect public health and safety but needs improvement, and compatible with NRC's program." Due to the significance and number of deficiencies found in the New Mexico program, which included a finding of unsatisfactory in one performance indicator, the review team recommended a period of probation for a duration to be established after consultation with the New Mexico radiation control program management.

The MRB met on October 23, 1997 to consider the proposed final report. At the time of the review, the IMPEP team found the State's performance to be satisfactory for the indicators, Technical Quality of Licensing Actions and Legislation and Regulations Required for Compatibility; satisfactory with recommendations for improvement for the indicators, Status of Materials Inspection Program, Technical Quality of Inspections, and Technical Staffing and Training; and unsatisfactory for the indicator, Response to Incidents and Allegations. The review team recommended that the New Mexico program be found adequate, but needs improvement, and compatible. Because of the significance of the concerns, the team also recommended that New Mexico be placed on probation and noted that heightened oversight was warranted. During the MRB meeting, three main issues were identified that New Mexico should address in terms of programmatic improvements: (1) level of program staff and amount of resource support; (2) technical quality of staff and training needs; and (3) level of management support, involvement, and oversight of New Mexico Agreement program activities. The MRB found the New Mexico program adequate, but needs improvement, and compatible with the NRC's program. The MRB concluded that it would be appropriate for NRC management to meet with upper management of the New Mexico program before the MRB voted on the recommendation for probation status for the program.

On December 4, 1997, Hugh L. Thompson, Jr., NRC Deputy Executive Director for Regulatory Programs and other NRC managers met with Secretary Mark Weidler, New Mexico Environment Department and his staff to discuss performance concerns associated with the New Mexico Agreement program.

On December 11, 1997, the MRB reconvened to discuss probation for the New Mexico program. Based on the New Mexico actions at the time of the meeting, and the commitments by Secretary Weidler, the MRB concluded probation was not warranted. Based on implementation of new procedures for response to incidents, the MRB directed the team to revise the finding for the common performance indicator, Response to Incidents and Allegations, to satisfactory with recommendations for improvement. The MRB directed that the follow-up review be conducted within one year of the IMPEP review, that monthly conference calls take place with New Mexico staff, and requested that written progress reports be submitted by the State every other month.

Monthly telephone conference calls, and one meeting at the Conference of Radiation Control Program Directors annual meeting, were held with New Mexico management and staff. The calls were effective in maintaining communication between NRC and New Mexico during the period of heightened oversight.

Three bi-monthly progress reports were submitted by New Mexico on January 21, March 27 and May 29, 1998. The reports chronicled the progress made by the State on the 29 recommendations and suggestions made during the 1997 review, including the hiring of two

staff, response to incidents, and improvements made to the inspection program. The progress reports may be found in Appendix C.

Results of the follow-up review of the State's response and resolution of the 29 recommendations and suggestions encompassing the IMPEP common and non-common performance indicators are presented in Sections 3 and 4, respectively. Section 5 summarizes the review team's findings and recommendations during the follow-up review.

3.0 **COMMON PERFORMANCE INDICATORS**

The IMPEP process uses five common performance indicators 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 Pending Issues Identified under "Status of Materials Inspection Program"

The review team focused on the four recommendations from the July 1997 IMPEP review. Each recommendation and its current status is addressed below. New Mexico's performance, with respect to this indicator, Status of Materials Inspection Program, was found to be satisfactory with recommendations for improvement during the 1997 review.

Recommendation

> The review team recommends that the nuclear pharmacy inspection frequency be modified from 2 years to 1 year.

Current Status

The State indicated, in its October 10, 1997 response to the draft review report, that the two-year inspection frequency for nuclear pharmacies was based on an out-dated copy of Inspection Manual Chapter (IMC) 2800 "Materials Inspection Program," which was believed to be current. The frequency was changed to 1 year immediately after identification by the team during the 1997 IMPEP review. IMCs are now centralized in a file maintained by a technical staff person. The review team verified that the State now inspects nuclear pharmacies on a one-year inspection frequency. The staff also has access to the NRC inspection manual via the NRC's website. All of New Mexico's inspection frequencies are now at least as frequent as NRC's.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that initial inspections of licensees be performed within 6 months of license issuance or within 6 months of the licensee's receipt of material and commencement of operations, consistent with IMC 2800.

Current Status

The review team evaluated the timing of initial inspections for six new licenses issued during the review period. All six were inspected within 6 months of issuance. The Program Manager maintains a tickler file for all new licenses issued by the Program. He personally calls licensees at two-month intervals to determine if radioactive material has been received. If so, he

schedules an inspection. If the licensee has not yet received licensed material, he updates the telephone log in the inspection file and schedules another call in 2 months. The Program Manager stated that, if licensed material was not received within 1 year, he would schedule an inspection regardless. This situation has not been encountered to date. Additionally, a standard license condition is added to new licenses instructing licensees to notify the Program within 10 days after receipt of radioactive material.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the tracking system be revised to allow initial inspections to be readily identified to staff and management.

Current Status

As discussed in the previous recommendation, the Program Manager tracks, in a hard copy tickler file, all new licenses issued. The Bureau Chief, who signs all new licenses, has also established a hard copy file in his office to track new license inspections. Both tracking files were observed during the follow-up review. The computer database has been completely revamped using a Microsoft Access-based program. Monthly reports are generated for Program managers to alert them of inspections which are due, including initial inspections. Since licenses are produced on the same database, the issuance dates on licenses are used to generate the inspection due date reports.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State increase the number of reciprocity inspections to better evaluate the health and safety implications of out-of-state companies working in New Mexico.

Current Status

Reciprocity inspections are now a priority for the New Mexico program. Since the review, greater than 75 percent of Priority 1 and approximately 50 percent of Priority 2 and 3 reciprocity licensees were inspected by the program. (Note: All New Mexico licensees are categorized as Priority 1, 2 or 3). In most cases the reciprocity inspections were unannounced. A log is maintained of all reciprocity requests with the date of inspection and the inspector's name or, if an inspection was not performed, the reason for the missed opportunity.

Some of the reciprocity inspections resulted in violations identified, including one out-of-state radiographer, where the New Mexico inspector identified significant health and safety concerns resulting from poor radiation safety practices by the licensee. New Mexico informed the Agreement State, which licenses the radiographer, of the violations identified during the reciprocity inspection.

Based on the follow-up review, the team considers this recommendation to be closed.

The primary intent of this follow-up review was to close out programmatic deficiencies identified during the 1997 IMPEP review. Although not specifically evaluated during this review, the team observed that other evaluation criteria, under this indicator, which were identified as satisfactory during the last review remained adequate and did not show deterioration. These areas include inspection backlog and inspection report timeliness.

Based on the team's findings during the follow-up review and the IMPEP evaluation criteria, the review team recommends that New Mexico's performance with respect to the indicator, Status of Materials Inspection Program, be upgraded to a finding of satisfactory.

3.2 Status of Pending Issues Identified under "Technical Quality of Inspections"

The review team focused on the seven recommendations and four suggestions from the 1997 IMPEP review. New Mexico's performance with respect to the indicator, Technical Quality of Inspections, was found to be satisfactory with recommendations for improvement during the 1997 review.

The review team evaluated casework for 12 inspections, including the following types of licenses: well logging, industrial radiography, medical, portable gauge, research and development, and nuclear pharmacy. There were no inspections of broad scope licensees during the review period.

Recommendation

> The review team recommends that the State inspectors attempt to observe licensee operations or demonstrations during all inspections.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that Program management has begun more frequent accompaniments of inspection staff and will continue doing so as new staff are hired. The "Standard Operating Procedures Manual for License Inspections" has been revised and a copy has been given to each staff member. The importance of performance-based inspections has been discussed at staff meetings and inspection forms have been finalized to reflect performance-based inspections. With the relocation of all but one inspector to a centralized location in Santa Fe, the Program Manager will now be able to discuss inspections with inspectors and more readily determine what was found during inspections and what additional areas need to be addressed. The inspector located in the Albuquerque office brings all inspection reports to Santa Fe at least weekly to discuss findings with the Program Manager as inspections are accomplished.

The review team verified that inspectors are now observing licensee activities during inspections and documenting such observations in the inspection report. The inspection report forms have been revised to include a section to document observation of activities, and list various activities to observe. The team also verified during staff interviews that all inspectors have copies of the "Standard Operating Procedures Manual for License Inspections" and have been instructed in all aspects of the manual.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State inspectors conduct independent measurements on all inspections.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that the staff has been advised of the importance of performing independent measurements during all inspections.

The review team found that independent measurements were routinely performed by the inspectors, and when independent measurements were not performed, inspectors provided an acceptable explanation in the inspection reports. The team verified, during staff interviews, that each inspector was aware of the importance of performing independent measurements as a part of the licensee evaluation process. The location of the independent measurements appeared appropriate for the type of licensed program.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State increase the rigor of reviewing technical health physics issues during inspections, and increase the breadth and scope of inspections.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that the inspection report forms and inspection guidance documents have been revised to reflect the importance of in-depth inspections. Weekly staff meetings are used to discuss the revised forms and guidance documents.

The review team found that the depth and scope of technical health physics reviews have improved since the last review. The inspectors evaluated programs in more detail, reviewing applicable technical issues related to the type of program, including such areas as surveys, storage and shielding of radioactive material, security, and dosimetry. Staff interviews identified that all inspectors have increased the technical rigor of their inspections. Training received by the staff since the last review has resulted in a greater knowledge of licensee operations,

resulting in more in-depth inspections. The inspection reports have also been revised to include more technical health physics issues.

Based on the follow-up review, the team considers this recommendation to be closed.

Suggestion

> The review team suggests that the State inspectors attempt to interview ancillary workers during inspections.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that staff have been reminded of the importance of interviewing ancillary workers during inspections. The staff was provided training in the regulations which pertain to consultation with workers during inspections.

The review team verified, during staff interviews, that all of the New Mexico inspectors routinely attempted to interview ancillary personnel during inspections. In some cases, this was not possible as the inspection was at a field site or was a reciprocity inspection, where no ancillary personnel were present. There were two inspection reports of medical facilities where interviews of ancillary personnel or a nurse were not documented, however, the inspectors indicated that they had interviewed these personnel. The Program Manager stated that he would encourage staff to ensure that all such discussions are documented in the inspection report.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

Recommendation

> The review team recommends that the State inspectors attempt to conduct formal exit meetings with the senior licensee management on all inspections.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that the inspection forms and inspection guidance documents now indicate that the closeout conference should be held with the licensee's highest level of licensee management available and that inspectors should always contact upper management upon entering a facility. This issue has also been discussed at staff meetings.

The review team found that the inspection forms now include a section to note those present at the exit meeting or who was contacted. The review team found that inspectors were regularly exiting with a high level of licensee management. If licensee management officials were not available during an inspection, attempts were made to follow up with them after the inspection.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State develop a formal process for reviewing licensee responses to deficiency letters and closing open deficiencies.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that all responses will be tracked using a tickler file; the Program Manager and the Bureau Chief will sign off on the adequacy of licensee responses; and requests for additional information are now made in writing, with copies of all correspondence placed in license folders.

The review team found that staff have been made aware of the tickler file and the process for using the file. The inspection files contained complete documentation for follow up of violations, with the exception of one file, which was corrected during the review. Program management signs off on the adequacy of all licensee responses. The system appears adequate to evaluate and track licensee responses.

Based on the follow-up review, the team considers this recommendation to be closed.

Suggestion

> The review team suggests that the State develop a formal process for inspectors and license reviewers to document and transmit pertinent information to each other for follow up.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that weekly staff meetings are held to discuss the previous week's activities. Any need for documentation is satisfied in writing.

The review team found that the inspection forms include a section entitled "License Reviewer Alert Memo," which is used to address any licensing issues. Only one of the files reviewed raised issues requiring the use of this system. In this case, the system worked very well in communicating an inspection-identified issue to the license reviewer. A memorandum in the file thoroughly documented the licensing issue and the licensing action was completed appropriately.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

Suggestion

> The review team suggests that the State develop a process for ensuring that inspection files are complete, that all appropriate State documents are prepared and filed, and that licensee responses are received and filed.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that each inspector will be held responsible for ensuring that all inspection files assigned to him or her are complete and that responses to letters of violation are received in a timely manner. The Program Manager and the Bureau Chief now approve the adequacy of licensee responses. Letters in reply to licensee responses are signed by the Program Manager. The Program Manager is reviewing license files each time a "circle of correspondence" is completed pertaining to licensing actions, inspections, or incidents.

The review team found that inspection files were complete, with the exception of one file, which was corrected during the review (as discussed in a previous recommendation above). Inspection reports, deficiency letters, and responses to deficiency letters were found, appropriately filed, in the license file.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

Recommendation

> The review team recommends that the State begin documenting all trips to licensees' or applicants' facilities when inspecting licensed activities, performing special inspections, or performing pre-licensing site visits during construction.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that this issue has been discussed with all staff. All information gained through trips to licensed facilities is now documented via memoranda to file, which are signed by the Program Manager.

The review team found that this recommendation has been implemented. Since the last review, there was only one case of a special inspection involving the addition of a new site to a license. The inspection was documented in the license file. Additionally, the State instituted a telephone log for each license file as needed to document communications with the licensee.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State management exercise more stringent supervisory review of inspection reports.

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that by relocating all but one of the inspectors to the central office in Santa Fe, inspection reports are no longer being allowed to accumulate without management review in the Albuquerque office. The Program Manager and Bureau Chief are reviewing licensee responses to cited violations

for adequacy and are signing off on reviews. The Program Manager is signing off on all documents entered in the files.

The review team found that inspection reports were generally signed by management and that deficiency letters were signed by the Bureau Chief. Of the 12 inspection reports evaluated, two did not appear to have been reviewed by management. Both were inspections in which no violations were identified and both were conducted by the inspector in the Albuquerque office. The Program Manager stated that some communication problems still existed between the Santa Fe and Albuquerque offices. The Bureau Chief stated that the Department is planning to close the Albuquerque office and consolidate the staff into the Santa Fe office, which should eliminate communication difficulties.

Interviews with the Bureau Chief and Program Manager identified an awareness of the content of inspection reports. The managers provided feedback to the inspectors to improve the inspection reports and to instill a health and safety focus. This increased management involvement in the inspection process resulted in more performance-based inspections.

Based on the follow-up review, the team considers this recommendation to be closed.

Suggestion

> The review team suggests that the State complete its revision of the inspection report forms, insuring that each set of forms covers all key areas for the type of licensee being inspected, and that RLRP inspectors begin using the standardized form(s).

Current Status

New Mexico responded, in its October 10, 1997 response to the draft IMPEP report, that all inspection report forms were being finalized and distributed to the staff. Staff have been advised as to how inspection forms are to be completed during staff training meetings.

The review team found that the State has updated and revised the inspection forms. Specifically, the following forms have been implemented:

- General Inspection Report Form, dated June 1998;
- Industrial Radiographer Inspection Report Form, dated September 1997;
- Medical Inspection Report Form, Revision 2, dated January 1998; and
- Density Moisture Gauge Inspection Report Form, dated October 1997.

The review team noted that the general inspection report form was used for two nuclear pharmacy inspections as the State does not yet have a specific nuclear pharmacy inspection form. In one case, the inspection report did not document certain technical areas, such as dose calibrator calibrations. The review team showed the staff how to download NRC's inspection field notes from the Internet for their use, as needed.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

The primary intent of this follow-up review was to close out programmatic deficiencies identified during the 1997 IMPEP review. Although not specifically evaluated during this review, the team observed that other evaluation criteria, under this indicator, which were identified as satisfactory during the last review remained adequate and did not show deterioration. These areas include supervisory accompaniments of inspectors and appropriate regulatory actions resulting from inspection findings.

Based on the team's findings during the follow-up review and the IMPEP evaluation criteria, the review team recommends that New Mexico's performance with respect to the indicator, Technical Quality of Inspections, be upgraded to a finding of satisfactory.

3.3 Status of Pending Issues Identified under "Technical Staffing and Training"

The review team focused on the three recommendations from the 1997 IMPEP review. New Mexico's performance with respect to the indicator, Technical Staffing and Training, was found to be satisfactory with recommendations for improvement during the 1997 review.

Recommendation

> The review team recommends that the State maintain the RLRP staffing level to at least the level which existed throughout the review period.

Current Status

During the 1997 review exit meeting, Secretary Weidler committed to fill the two vacant Environmental Specialist positions in the radiation control program. Effective February 16, 1998, the positions were filled by Stanley Fitch and Mark Garcia, both with health physics experience. The program is now fully staffed.

New Mexico program management acknowledged, during the 1998 follow-up review, the need to maintain the radiation control program staffing level to at least the current level.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State provide training to technical personnel in the areas of medical brachytherapy and irradiator technology.

Current Status

In October 1997, a one-day brachytherapy training course was presented to staff by the University of New Mexico Cancer Treatment Center. Refresher training is planned annually at the University. In June 1998, a nuclear medicine/brachytherapy safety training course was received from ProTechnics, a consultant. Staff indicated that both training courses were beneficial.

The NRC-sponsored Teletherapy and Brachytherapy course (H-313) is part of New Mexico's core training program. The Program Manager intends to have staff attend this one-week course or an equally comprehensive alternative training course.

In June 1998, ProTechnics also provided a one-day training course on irradiator safety to the New Mexico staff. The training was coordinated with a visit to the Ethicon EndoSurgery pool irradiator in Albuquerque. Staff also attended a Nordion irradiator training course at Ethicon in September 1998.

The Program Manager plans to send one or two staff members to the NRC-sponsored Irradiator Technology course (H-315), if training funds are received.

Discussions with inspection and licensing staff, during the follow-up review, indicated an increase in knowledge and comprehension in brachytherapy and irradiator technologies.

On April 15, 1998, the New Mexico Environment Department formally petitioned the NRC for funding assistance in the pursuit of training. NRC responded to the request, in a June 11, 1998 letter to Secretary Weidler, asking for additional information in support of the request. This issue is pending.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State develop a formalized training program comparable to IMC 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguards Program Area."

Current Status

The State developed a "Radiation Protection Licensing and Inspection Training Procedure." The procedure provides a formal qualification protocol for inspectors and license reviewers. The procedure is modeled after IMC 1246 and specifies core and specialized training courses, requires oral qualification boards, and provides a qualification journal to each inspector and license reviewer. Version 1 was approved by the Program Manager on July 6, 1998.

The team verified during interviews that all staff have been given copies of the procedure and their own qualification journals. The two new staff members, hired in February 1998, are presently in training status and are not yet performing independent inspections or license reviews.

Based on the follow-up review, the team considers this recommendation to be closed.

The primary intent of this follow-up review was to close out programmatic deficiencies identified during the 1997 IMPEP review. Although not specifically evaluated during this review, the team observed that other evaluation criteria, under this indicator, which were identified as satisfactory during the last review remained adequate and did not show deterioration.

Based on the team's findings during the follow-up review and the IMPEP evaluation criteria, the review team recommends that New Mexico's performance with respect to the indicator, Technical Staffing and Training, be upgraded to a finding of satisfactory.

3.4 Status of Pending Issues Identified under "Technical Quality of Licensing Actions"

The review team focused on the one suggestion from the 1997 IMPEP review. New Mexico's performance with respect to the indicator, Technical Quality of Licensing Actions, was found to be satisfactory during the 1997 review.

The team evaluated casework for 10 licenses, including the following types: pool irradiator, well logging, medical institution, broad scope academic, research and development, industrial radiography, source manufacturer, and nuclear pharmacy.

Suggestion

> The review team suggests that documentation of license reviewers' actions be maintained in license files.

Current Status

The State responded in its monthly progress report, dated January 21, 1998, that several of the documents that appeared to be missing from the files, were, in fact, present in the Albuquerque office. Since the IMPEP review, all files have been returned to the centralized office in Santa Fe. The importance of documentation for every action taken by staff has been discussed with the staff. A telephone log is being used to document any conversations with licensees. Additionally, all requests for additional material from licensees will be in writing.

Documentation of license reviewers' actions has improved since the last review. Telephone logs are used to document conversations with licensees. Deficiency letters are used to request additional information from licensees. Additionally, license application evaluation forms are used to review applications and complicated amendments. The evaluation form includes the criteria, any comments by the license reviewer, and what is needed, either from the licensee or in the license, as part of the amendment or application.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

Based on the team's findings during the follow-up review and the IMPEP evaluation criteria, the review team recommends that New Mexico's performance with respect to the indicator, Technical Quality of Licensing Actions, remain as satisfactory.

3.5 Status of Pending Issues Identified under "Response to Incidents and Allegations"

The review team focused on the six recommendations and two suggestions from the 1997 IMPEP review. New Mexico's performance with respect to the indicator, Response to Incidents and Allegations, was found to be satisfactory with recommendations for improvement during the 1997 review.

The team evaluated seven factors pertinent to this indicator: responsiveness, investigative procedures, documentation, corrective actions, follow up, compliance, and notifications. To evaluate the indicator, the team interviewed program management and staff, evaluated the casework for the 10 incidents that occurred since the 1997 IMPEP review, and evaluated the State's response to the 1997 IMPEP review.

During the 1997 review, the team found frequent examples of incomplete, inappropriate, poorly documented, or delayed responses to incidents, including cases which had the potential to result in health and safety problems. Therefore, at the time of the review, based on the IMPEP evaluation criteria, the review team recommended that New Mexico's performance with respect to the indicator, Response to Incidents and Allegations, be found unsatisfactory. With their October 10, 1997, response to the draft report, the State furnished copies of new incident response procedures that appeared adequate to address the concerns. During the December 11, 1997, MRB meeting, it was noted that New Mexico had successfully implemented the new procedures. Based on the implementation of the new procedures, the MRB directed the finding to be revised to satisfactory with recommendations for improvement.

Recommendation

> The review team recommends that the State make on-site, documented investigations of incidents, allegations, or misadministrations with potential health and safety effects (i.e., source disconnects, possible overexposures, lost sources, contamination, etc.).

Current Status

The State's new procedures offer specific guidance on determining the need for on-site investigations. Evaluation of the casework showed that on-site investigations were indicated in four of the ten incidents. In each case, the State responded promptly and appropriately. The incidents were well documented, followed up, and closed out with signed and dated notations of management review.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State create an incident and allegation reporting form that would, at a minimum, identify the person taking the initial report, list the name and telephone number of the reporting party, provide the details of the incident or allegation as reported, record the State's conversation with the licensee or individual, describe corrective actions taken by the licensee, describe the investigation conducted by the State and the results, list citations or other regulatory actions, show the date the investigation was closed out and justification for closure, show date(s) incident was reported to the NRC or other agencies, and provide spaces for the signatures of the investigator and supervisor. A copy of the form should be maintained in the incident file and in the license file.

Current Status

In the response letter dated October 10, 1997, the State furnished a newly designed form, "Incident Report for Radioactive Material Licensees," to the NRC for review. Examination of the form showed that it meets the criteria specified in the recommendation. During the evaluation of casework, the team found that the form is being properly used by the investigators and that copies were appropriately filed in the incident chronological file as well as the licensee's file.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State establish a protocol for making independent investigations and evaluations of the licensee's actions.

Current Status

The protocol for making independent investigations and evaluations of the licensee's actions was provided to the NRC in New Mexico's letter dated October 10, 1997. Appropriate incident investigations and evaluations of licensee's actions were performed for all of the incidents reviewed.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State initiate procedures to ensure incidents are followed up at the next inspection to verify that the licensee's corrective actions have been implemented.

Current Status

A section entitled, "Incidents/Reports" has been added to the inspection forms to ensure that inspectors review events that may have occurred since the last inspection of the licensee. Of the 21 incidents reviewed during the 1997 and 1998 reviews, the team identified eight licensees which had subsequent inspections. Although one was missed early in the review period, seven had been followed up appropriately.

Based on the follow-up review, the team considers this recommendation to be closed.

Suggestion

> The review team suggests that when evaluating incidents, the State cite appropriate deficiencies when applicable.

Current Status

In their October 10, 1997, response to the NRC, the State committed to sending deficiency letters or citations when indicated. Of the incidents which occurred since the last review, citations were appropriate for only one incident. That incident investigation was in process at the time of this review, and a Notice of Violation had not yet been sent, but was planned for the near future. The Program Manager stated that formal Notices of Violation would be issued for deficiencies, found during incident investigations as is done in the routine inspection program.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

Recommendation

> The review team recommends that the State: (a) set up a separate incident and allegation file system in the Santa Fe office, keeping all documents and records pertaining to an incident in one location, with the data cross-referenced to the license/inspection files there and in the Albuquerque office, and (b) establish a system to centrally log and track the progress of incidents and allegations.

Current Status

The team found that the incident and allegation file system has been moved to the Santa Fe office. Copies will be kept in the Albuquerque files until that office is closed. The team verified that documents are cross-referenced to licensee files in both offices. A new computer system has been established to log and track the progress of incidents and allegations. The staff was able to successfully demonstrate the system by sorting and printing the information as requested by the team. The team also compared the printed list with the incidents reported for New Mexico in the "Nuclear Materials Events Database (NMED)" and found that they agreed.

Based on the follow-up review, the team considers this recommendation to be closed.

Recommendation

> The review team recommends that the State develop and implement written procedures for responding to events involving radioactive material and conduct training sessions until all technical staff are fully trained and qualified in emergency response.

Current Status

Three newly developed procedures: “Standard Operating Procedure for Response to Incidents Involving Radioactive Materials,” “Incident Investigation Procedures,” and “Incident Reporting System/Abnormal Occurrence Criteria” were found adequate by the NRC after they were included with the October 10, 1997, letter from the State. The team verified that the procedures were being followed by the investigators. The team also verified during staff interviews that all responders had been given copies of the procedures and that they had been instructed in emergency response during weekly meetings and discussions that take place after each event.

Based on the follow-up review, the team considers this recommendation to be closed.

Suggestion

The review team suggests that the State keep expanding the allegation procedures to include procedures for notifying the person making the allegation of the results of the investigation and including the allegation procedures in the event reporting form, tracking system, and emergency response procedures.

Current Status

The team found that the State's allegation procedures have been completely rewritten. There are provisions for notifying the person making the allegation of the results of the investigation. The procedures have been changed to include allegations in the event tracking system and emergency response procedures.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

The primary intent of this follow-up review was to close out programmatic deficiencies identified during the 1997 IMPEP review. Although not specifically evaluated during this review, the team observed that other evaluation criteria, under this indicator, which were identified as satisfactory during the last review remained adequate and did not show deterioration. These areas include notifications of incidents to NRC and other Agreement States.

Based on the team's findings during the follow-up review and the IMPEP evaluation criteria, the review team recommends that New Mexico's performance with respect to the indicator, Response to Incidents and Allegations, be upgraded to a finding of satisfactory.

4.0 NON-COMMON PERFORMANCE INDICATORS

The team reviewed one non-common performance indicator that applied to the New Mexico program, Legislation and Program Elements Required for Compatibility

4.1 Status of Pending Issues Identified under "Legislation and Program Elements Required for Compatibility"

The review team focused on the one recommendation and one suggestion from the 1997 IMPEP review. New Mexico's performance with respect to the indicator, Legislation and Program Elements Required for Compatibility, was found to be satisfactory during the 1997 review.

Recommendation

The review team recommends that the State expedite promulgation of the compatibility-related regulations now overdue and those which are due within the next 12 months.

Current Status

The overdue compatibility regulations and those due through May 16, 1999, are in the process of being adopted. Drafts of the 11 regulations listed below were sent to the NRC for review on June 15, 1998, and the State was awaiting the results of that review at the time of the follow-up IMPEP review. The State missed their projected adoption date for these regulations of June 1998 and have extended it to October 1998.

- "Decommissioning Recordkeeping and License Termination: Documentation Additions," 10 CFR Parts 30, 40, 70, and 72 amendments (58 FR 39628) that became effective on October 25, 1993, and became due on October 25, 1996.

- "Self-Guarantee as an Additional Financial Mechanism," 10 CFR Parts 30, 40, and 70 amendments (58 FR 68726 and 59 FR 1618) that became effective on January 28, 1994, and became due on January 28, 1997.

- "Timeliness in Decommissioning of Materials Facilities," 10 CFR Parts 30, 40, and 70 amendments (59 FR 36026) that became effective on August 15, 1994, and became due on August 15, 1997.

- "Preparation, Transfer for Commercial Distribution and Use of Byproduct Material for Medical Use," 10 CFR Parts 30, 32 and 35 amendments (59 FR 61767, 59 FR 65243, 60 FR 322) that became effective on January 1, 1995, and became due on January 1, 1998.

- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20 and 61 amendments (60 FR 15649, 60 FR 25983) that became effective March 1, 1998, and became due on March 1, 1998.

- "Frequency of Medical Examinations for Use of Respiratory Protection Equipment," 10 CFR Part 20 amendments (60 FR 7900) that became effective on March 13, 1995, and became due on March 13, 1998.

- “Radiation Protection Requirements: Amended Definitions and Criteria,” 10 CFR Parts 19 and 20 amendments (60 FR 36038) that became effective August 14, 1995, and which will become due on August 14, 1998.

- “Medical Administration of Radiation and Radioactive Materials” 10 CFR Parts 20 and 35 amendments (60 FR 48623) that became effective on October 20, 1995, and which will become due on October 20, 1998.

- "Clarification of Decommissioning Funding Requirements," 10 CFR Parts 30, 40, and 70 amendments (60 FR 38235) that became effective November 24, 1995, and which will become due on November 24, 1998.

- "Compatibility with the International Atomic Energy Agency," 10 CFR Part 71 amendment (60 FR 50248, 61 FR 28724) that became effective April 1, 1996, and which will become due on April 1, 1999.

- "Termination or Transfer of Licensed Activities: Recordkeeping Requirements," 10 CFR Parts 20 and 30 amendments (61 FR 24669) that became effective on May 16, 1996, and which will become due on May 16, 1999.

In addition, the State plans to add the rule, "Licenses for Industrial Radiography and Radiation Safety Requirements of Industrial Radiography Operations," 10 CFR Parts 30 and 34 amendments (62 FR 28947) that became effective on June 27, 1997, to the current package. This rule covers all previous Part 34 requirements, some of which were apparently overlooked in previous rule changes.

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

Until the overdue regulations become effective, the team considers this recommendation to be open.

Suggestion

The review team suggests that a file be maintained with the cover letters and ensuing correspondence of all draft or final regulations sent to the NRC.

Current Status

The State created a regulation correspondence file to track the progress of the promulgation and review process. In reviewing the file, however, the team found that a cover letter was not sent for the recent package of regulations presently under NRC review. The State explained that this was apparently an oversight, and that the policy is to maintain cover letters in the regulation file.

Based on the follow-up review, the review team notes the actions taken by the State in response to this suggestion, and considers this suggestion to be closed.

Based on the team's findings during the follow-up review and the IMPEP evaluation criteria, the review team recommends that New Mexico's performance with respect to the indicator, Legislation and Program Elements Required for Compatibility, remain as satisfactory.

5.0 **SUMMARY**

The New Mexico radiation control program has made significant strides since the July 1997 IMPEP review. The program is now fully staffed with experienced personnel, training deficiencies are being addressed, and program management is providing an appropriate amount of oversight and support.

The follow-up review team found the State's performance in responding to and resolving 28 of the 29 recommendations and suggestions to be satisfactory. The only remaining open recommendation concerns the promulgation of regulations required for compatibility.

Funding for the program is still a major issue, especially regarding the training budget. Secretary Weidler committed to submit a budget request for additional training funding or to pursue a

statutory amendment to initiate a licensee fees program with proceeds directed to a dedicated program fund. Requested funding assistance from the NRC is seen as an interim measure until an appropriate course of action is approved by the State legislature.

As discussed earlier in this report, the follow-up review team considers all of the common performance indicator recommendations and suggestions to be closed. Progress has been made on the one non-common performance indicator reviewed (the indicator was found satisfactory during the 1997 review) and compatibility-required regulations should be adopted by October 1998.

The review team recommended and the MRB concurred, that for each of the five common performance indicators and the one non-common performance indicator, New Mexico's performance be found satisfactory and that the program as a whole be considered adequate to protect public health and safety and compatible with NRC's regulatory program. The MRB also concurred in the team's recommendation that the heightened oversight of the New Mexico radiation control program be discontinued.

Below is the one remaining recommendation which is not considered closed, as mentioned earlier in the report, for consideration by the State.

Recommendation

The review team recommends that the State expedite promulgation of the compatibility-related regulations now overdue and those which are due within the next 12 months. (Section 4.1)

LIST OF APPENDICES

APPENDIX A

IMPEP FOLLOW-UP REVIEW TEAM MEMBERS

Name	Areas of Responsibility
James Lynch, RIII	Team Leader Status of Materials Inspection Program Technical Staffing and Training
Jack Hornor, RIV/WCFO	Response to Incidents and Allegations Legislation and Program Elements Required for Compatibility
M. Linda McLean, RIV	Technical Quality of Inspections
Torre Taylor, NMSS	Technical Quality of Licensing Actions

APPENDIX B

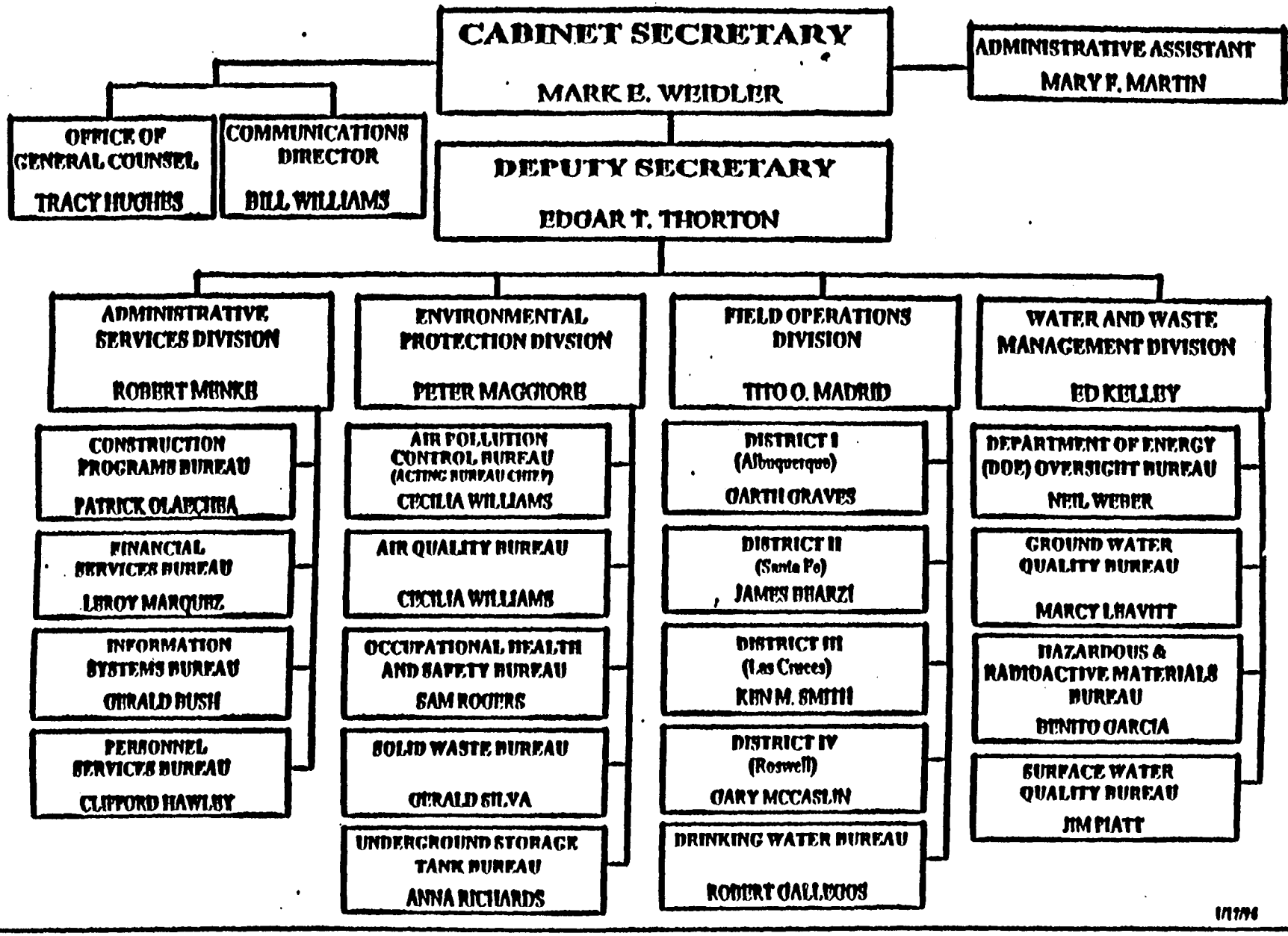
NEW MEXICO ENVIRONMENT DEPARTMENT

AND

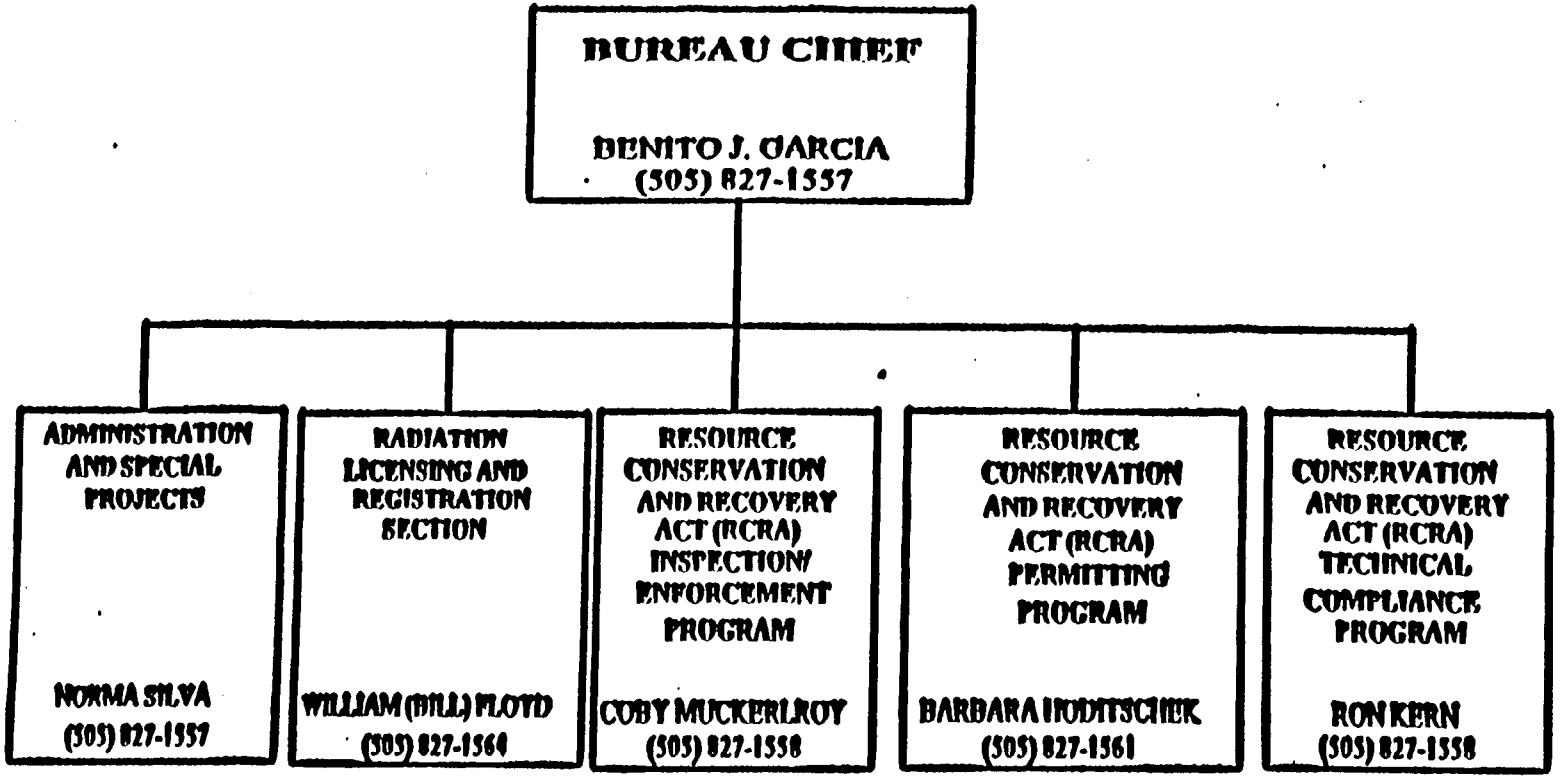
HAZARDOUS RADIOACTIVE MATERIALS BUREAU

ORGANIZATION CHARTS

NEW MEXICO ENVIRONMENT DEPARTMENT



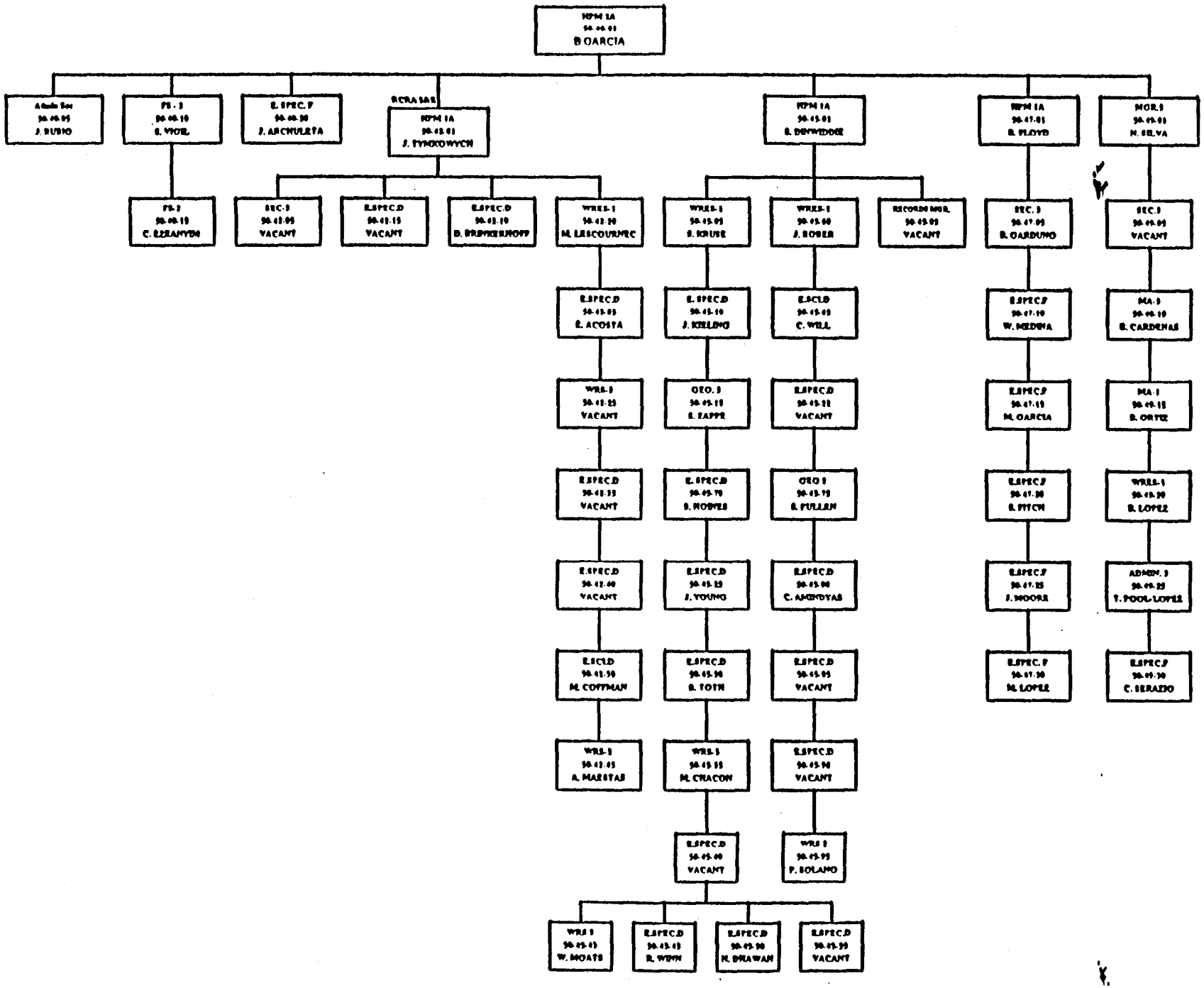
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU



9/10/91

HAZARDOUS RADIOACTIVE MATERIALS BUREAU

06/09/98



APPENDIX C

NEW MEXICO PROGRESS REPORTS

JANUARY 21, 1998,
MARCH 27, 1998,
AND
MAY 29, 1998

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

January 21, 1998

'98 JAN 27 A11:41 OSO

Richard L. Bangart, Director
Office of State Programs
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Bangart:

As per Mr. Hugh L. Thompson's request in his letter dated December 30, 1997, to New Mexico Environment Secretary Mark E. Weidler, I am submitting the first of the requested bi-monthly progress reports addressing the IMPEP team's suggestions and recommendations.

I appreciate the courtesy and concern expressed by the IMPEP review team and the members of the MRB and thank all of you for the advice and recommendations given to improve the new Mexico Radiation Control Program. We look forward to working cooperatively with the NRC in the future.

Please call me at (505)827-1862 should you have any questions.

Sincerely,

William M. Floyd
Program Manager

cc: Mark Weidler, Secretary
New Mexico Environment Department

Ed Kelley, Director
Water and Waste Management Division

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau

ACTIONS DOCUMENTATION AND PROCEDURES ADOPTED BY NEW MEXICO RCP TO ADDRESS MRB CONCERNS

INTRODUCTION: Below is a summary list of suggestions and recommendations identified by the IMPEP Review Team as requiring action by the State:

1. The review team recommends that the nuclear pharmacy inspection frequency be modified from 2 years to 1 year. (Section 3.1)

Response: As Attachment 1 indicates, inspection frequency for nuclear pharmacies has been increased from once every 2 years to annually. The two-year inspection frequency being used previously was based on that recommended in out dated copy of IMC 2800.

2. The review team recommends that initial inspections of licensees be performed within 6 months of licensee's receipt of material and commencement of operations, consistent with IMC 2800. (Section 3.1)

Response: The Bureau Chief, who signs all newly issued licenses, has established a hard copy file for new licenses in his office and will track new license inspections on a six month basis. The RCP Program manager has established a tickler file and will remind inspectors of inspections coming due during a two-month block at least a month in advance. The computer database will likewise flag newly issued licenses which need to be inspected within six months. Additionally, a standard condition has been added to newly-issued licenses instructing licensee to notify RCP within ten days of receipt of licensed material.

3. The review team recommends that the tracking system be revised to allow initial inspections to be readily identified to staff and management. (Section 3.1)

Response: Computer printouts of licensees showing inspections coming due will be generated the last week of every month. A copy of this printout will be given to both management and inspection staff. This has been done for the month of October and January 1998, and will continue to be done the last week of every month.

4. The review team recommends that the State increase the number of reciprocity inspections to better evaluate the health and safety implications of out-of-state companies working in New Mexico. (Section 3.1)

Response: When notification is received of an out-of-state licensee's impending entry into the state, the RCP Program Manager will make a copy of notification form and forward to individual assigned that geographical area. Every attempt will be made to conduct an unannounced inspection of the reciprocal licensee. If unannounced inspections are not possible due to inability to locate licensee, documented phone calls will be made to obtain directions to field site or to coordinate a meeting between RCP Staff and reciprocal licensee to allow accompanied visit to field site. If staff workload, unavailability of staff or other considerations do not allow for inspections of reciprocal licensees in field locations, the RCP Program Manager will indicate on notification form why inspection were not conducted. Master reciprocity inspection file will be maintained by RCP Program Manager in Santa Fe. Reciprocal license inspections will be coordinated with routine inspections of State licensees whenever possible to maximize use of in-state travel funding. Program goal will be to conduct on-site inspections of a minimum of 50% of all Priority 1 and 2 reciprocal licenses. As of December 1997, eight reciprocity inspections have been accomplished, including seven of priority 1 and 2 licensees. This amounts to and inspection ratio of 73% of all reciprocal licensees entering the state.

5. The review team recommends that the State maintain the RCP staffing level to at least the level which existed throughout the review period. (Section 3.2)

Response: The two Environmental Specialist positions vacated since the IMPEP review were approved for hire and were advertised for applicant interviews. A total of 19 applications have been received. All applicants have submitted resumes and copies of state employment applications. We are in the process of requesting a re-ranking of applicant qualifications from State Personnel to better reflect actual qualifications.

6. The review team recommends that the State provide training personnel in the areas of medical brachytherapy and irradiator technology. (Section 3.2).

Response: Dr. Tom Kirby, Medical Physicist at the University of New Mexico Cancer Treatment Center, provided brachytherapy training to RCP staff on October 14, 1997, and will provide refresher training to program staff annually. There are currently brachytherapy programs at four hospitals in the State.

Paul Ripley, RSO at Ethic on EndoSurgery's 5 million curie Co-60 irradiator in Albuquerque, has approved RCP staff attendance at pool irradiator training to be offered by Nordion sometime in January 1998. This training will be updated on an annual basis. There are currently two pool irradiators in the State: the one at Ethic on and a 20,000 curie Co-60 model used for instructional and research purposes at the University of New Mexico.

New Mexico RCP staff observed all operations pertaining to production, assaying, packaging and shipping of radiopharmaceutical kits at Syncor Radiopharmacy on November 6, 1997.

RCP staff received training in dose calibrator constancy, accuracy, linearity and geometry dependence, as well as the receipt, assay and radiation monitoring of incoming radiopharmaceuticals at Los Alamos Medical Center on November 19, 1997.

7. The review team recommends that the State develop a formalized training program comparable to IMC 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguard Program Area." (Section 3.2)

Response: The State is in the process of developing a formalized training program comparable to IMC 1246. The States of Texas, Colorado and Arizona have been contacted about the possibility of providing on-hands training to the New Mexico RCP staff.

8. The review team suggests that documentation of license reviewer's actions be maintained in license files. (Section 3.2)

Response: Several documents verbally identified by the IMPEP review team as being missing from license files were in fact present in the Albuquerque RCP office. Since the IMPEP review, all files have been returned to the centralized Santa Fe RCP office. The importance of documentation for every action taken by staff in response to licensees' requests has been discussed at RCP staff meetings. A telephone log sheet has been inserted at the front of every license folder for documenting conversations. All requests for additional material from licensees will henceforth be in writing.

9. The review team recommends that the State inspectors attempt to observe licensee operations or demonstrations during all inspections. (Section 3.4)

Response: Program Management has begun more frequent accompaniments of junior staff and will continue doing so as new staff are hired. A total of 15 license inspections have occurred since the IMPEP review where management has accompanied staff. The Standard Operating Procedures Manual for License Inspections has been revised, and a copy has been made available to each staff member. The importance of performance-based-inspections has been discussed at RCP staff meetings and inspection forms have been finalized reflecting performance-based inspections. The importance of interviews with workers, independent measurements, status of previous violations, and the substance of discussions during exit interviews with management are reflected in the newly-revised inspection report forms.

With the relocation of all but one inspector to a centralized location, the Program Manager will now be able to discuss inspections face-to-face with inspectors and thereby will be able to ascertain what was found during inspections, and what additional material needs to be addressed. The one non-

central office inspector will personally bring all inspection forms to the central office and discuss findings with the Program Manager as inspections are accomplished.

10. The review team recommends that the State inspectors conduct independent measurements on all inspections. (Section 3.4)

Response: RCP staff have been advised of the importance of taking independent measurements on all inspections. The State Scientific Laboratory Division (SLD) is working more closely with the RCP in determining Program needs (Quarterly meetings are now being held between SLD and the RCP to determine analytical needs of the RCP and radiochemistry capabilities of SLD). Independent measurements have been made on all inspections since the IMPEP Review.

11. The review team recommends that the State increase the rigor of reviewing technical health physics issues during inspections, and increase the breadth and scope of inspections. (Section 3.4)

Response: Inspection forms and Inspection Guidance Documents have been revised to reflect the importance of in-depth inspections. Monthly staff meetings have been initiated and will to discuss revised forms and guidance documents. Minutes of these meetings have been kept showing the scope of these discussions.

12. The review team suggests that the State inspectors attempt to interview ancillary workers during inspections. (Section 3.4)

Response: RCP staff have been reminded of the importance of interviewing ancillary workers during inspection. The provisions of Subpart 10, Section 1005, New Mexico Radiation Protection Regulations, which pertain to consultation with workers during inspections have been discussed during staff meetings.

13. The review team recommends that the State inspectors attempt to conduct formal exit meetings with the senior licensee management on all inspections. (Section 3.4)

Response: Inspection forms and inspection guidance documents now indicate that "the closeout conference should be held with the licensee's highest level of management available," and that "inspectors should always contact upper management upon entering a facility." The importance of contacting upper management as a follow-up, if upper management is unavailable at time of inspection, has been discussed at staff meetings. Senior Management exit interviews have been held on all inspections conducted since the IMPEP Review.

14. The review team recommends that the State develop a formal process for reviewing licensee responses to deficiency letters and closing open deficiencies. (Section 3.4)

Response: All responses will be tracked using tickler file. Both the RCP Program Manager (initially) and the Bureau Chief will sign off on the adequacy of licensee response. Requests for additional information are now made in writing, with copies of all correspondence placed in license folders.

15. The review team suggests that the State develop a formal process for inspectors and license reviewers to document and transmit pertinent information to each other for follow-up. (Section 3.4)

Response: Weekly staff meetings are now being held to discuss the previous week's activities. RCP Program Manager and inspectors discuss information resulting from previous week's inspection efforts. Any need for documentation is satisfied in writing.

16. The review team suggests that the State develop a process for ensuring that inspection files are complete, that all appropriate State documents are prepared and filed, and that licensee responses are received and filed. (Section 3.4)

Response: Each inspector will be held responsible for ensuring that all inspection files assigned to him or her are complete and that responses to letters of violation are received in timely manner. In accordance with Item 14, adequacy of responses is now approved by both Program Manager and Bureau Chief.. Letters in reply to licensee responses will be signed by Program Manager. Program Manager is reviewing license files each time "circle of correspondence" is completed pertaining to licensing action, inspection, or incident.

17. The review team recommends that the State begin documenting all trips to licensees' or applicants' facilities when inspecting licensed activities, performing special inspections, or performing pre-licensing site visits during construction. (Section 3.4)

Response: The importance of documentation has been discussed at RCP staff meetings. All information gained through trips to licensed facilities is now documented via memoranda to file signed off on by RCP Program Manager.

18. The review team recommends that the State management exercise more stringent supervisory review of inspection reports. (Section 3.4)

Response: By relocating all but one of the RCP inspectors to a centralized location, inspection reports are no longer being allowed to accumulate without management review in field office. Both Program Manager and the Bureau Chief are reviewing licensee responses to cited violations for adequacy and are signing off on reviews. Program Manager is signing off on all documents entered in files.

19. The review team suggests that the State complete its revision of the inspection report forms, ensuring that each set of forms covers all key areas for the type of licensee being inspected, and that RCP inspectors begin using the standardized form(s). (Section 3.4)

Response: All inspection report forms are being finalized and copies have been distributed to

staff. Staff have been advised as to how inspection forms are to be completed during staff training meetings.

20. The review team recommends that the State make onsite, documented investigations of incidents, allegations, or misadministrations with potential health and safety effects (i.e., source disconnects, possible over exposures, lost sources, contamination, etc.) (Section 3.5)

Response: A guidance document has been written outlining the standard operating procedures to be followed in response to incidents involving radioactive materials. A copy of these documents has been provided to each RCP staff member. The contents of these incident response guidance document have been discussed at RCP staff meetings. NRC has indicated satisfaction with current report forms and the manner that incidents are now being investigated and documented.

21. The review team recommends that the State create an incident and allegation reporting form that would, at a minimum, identify the person taking the initial report, list the name and telephone number of the reporting party, provide the details of the incident or allegation as reported, record the State's conversation with the licensee or individual, describe corrective actions taken by the licensee, describe the investigation conducted by the State and the results, list citations or other regulatory actions, show the date the investigation was closed out and justification for closure, show date(s) incident was reported to the NRC or other agencies, and provide spaces for the signatures of the investigator and supervisor. A copy of the form should be maintained in the incident file and in the license file. (Section 3.5)

Response: Incident and allegation report forms have been developed by the RCP which incorporate all of the above, Additionally, standard operating procedures have been developed for both incident and allegation investigations and made available to Program Staff.

22. The review team recommends that the State establish a protocol for making independent investigations and evaluations of the licensee's actions. (Section 3.5)

Response: A protocol has been developed for making independent investigations and evaluating the licensee's actions.

23. The review team recommends that the State initiate procedures to ensure incidents are followed-up at the next inspection to verify that the licensee's corrective actions have been implemented. (Section 3.5)

Response: A separate section entitled "Incidents/Reports" has been incorporated into inspection forms giving information on types of incidents that may have occurred since last inspection and to address notification reports and corrective actions. The importance of completing this section has been stressed with RCP staff.

24. The review team suggests that when evaluating incidents, the State cite appropriate items of deficiencies when applicable. (Section 3.5)

Response: Deficiency letters are being sent to any licensee where a breakdown of procedures occurred resulting in a reportable incident. Management interviews are being held to discuss cause of incident, results and corrective actions taken.

25. The review team recommends that the State: (a) set up a separate incident and allegation file system in the Santa Fe office, keeping all documents and records pertaining to an incident in one location, with the data cross-referenced to the license/inspection files there and in the Albuquerque office, and (b) establish a system to centrally log and track the progress of incidents and allegations. (Section 3.5)

Response: The incident and allegation file system has been moved from the Albuquerque office to the Santa Fe office. A new Incident/Allegation Checklist has been developed, as well as a new Incident/Allegation Report Form. The NMED database is being utilized to track all incidents and allegations and forwarded to NRC. A chronology file (hard copy) will also be kept in the Santa Fe

office, and a tickler file has been established to track the progress of incidents and allegations. .

26. The review team recommends that the State develop and implement written procedures for responding to events involving radioactive material and conduct training sessions until all staff are fully trained and qualified in emergency response. (Section 3.5)

Response: Written procedures are in place for responding to events involving radioactive material and staff has been instructed in their use.

27. The review team suggests that the State keep expanding the allegation procedures to include procedures for notifying the person making the allegation of the results of the investigation and including the allegation in the event reporting form, tracking system, and emergency response procedures (Section 3.5)

Response: A guidance document is now in place covering various aspects of allegation procedures, including the notification of the person making the allegation. Allegations are being tracked by the Program Manager & entered into database as if it were reportable incident.

28. The review team recommends that the State expedite promulgation of the compatibility-related regulations now overdue and those which are due within the next 12 months. (Section 4.1.2)

Response: Subpart 3, Section 311. G.4.a through d (pages 3-32 through 3-33) contains the compatibility language for "Decommissioning Record keeping and License Termination; Documentation Additions" and was adopted by the New Mexico EIB, April 3, 1995, and became effective May 3, 1995.
Language from the Federal Register (61 FR 24669) was approved by the Radiation Technical Advisory Council (RTAC) for inclusion under Subpart 3, Section 311.G (page 3-32) NMAC3.1. The RTAC will recommend adoption of these changes by the Environmental Improvement Board.

Self-Guarantee as an Additional Financial Mechanism, "10 CFR Parts 30,40, and 70 amendments (58 FR 68726 and 59 FR 1618) that became effective on January 28, 1994, and which became due on January 28, 1997. Language from the Federal Register (58 FR 68726 and 59 FR 1618) was approved by the Radiation Technical Advisory Council (RTAC) at their September 24, 1997 meeting for inclusion in Subpart 4, NMAC3.1. The RTAC will recommend adoption of these changes to the Environmental Improvement Board.

Work continues on inserting language for the following amendments to the New Mexico Radiation Protection Regulations. Once the insertions have been made, the amended regulations will be taken before the RTAC for approval prior to submittal to the Environmental Improvement Board. (These will be adopted no later than May 1998):

1. Timeliness in Decommissioning of Materials Facilities, "10CFR Parts 30,40 and 70 amendments.
2. Preparation, Transfer for Commercial Distribution and Use of Byproduct Material for Medical Use, "10 CFR Parts 30, 32, and 35 amendments."
3. Low-Level Waste Shipment Manifest Information and Reporting, "10 CFR parts 20 and 61 amendments."
4. Frequency of Medical Examinations for Use of Respiratory Protection Equipment, "10 CFR Part 20 amendments."
5. Radiation Protection Requirements: Amended Definitions and Criteria, "10 CFR Parts 19 and 20 amendments."
6. Medical Administration of Radiation and Radioactive Materials, 10 CFR Parts 20 and 35 amendments."
7. Clarification for Decommissioning Funding Requirements, "10 CFR Parts 30, 40, and 70 amendments."
8. Compatibility with the International Atomic Energy Agency, "10 CFR Part 71 amendment."
9. Termination or Transfer of Licensed Activities: Record keeping Requirements, "10 CFR Parts 20 and 30."

29. The review team suggests that a file be maintained with the cover letters and ensuing correspondence of all draft or final regulations sent to the NRC. (Section 4.1.2).

Response: All NRC-related correspondence pertaining to regulation development is kept in separate file for easy access.

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

March 27, 1998

Richard L. Bangart, Director
Office of State Programs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Bangart:

As per Mr. Hugh L. Thompson's request in his letter dated December 30, 1997, to New Mexico Environment Department Secretary Mark E. Weidler, I am submitting the second of the requested bi-monthly progress reports addressing the IMPEP Team's suggestions and recommendations.

Please note that for the suggestions and recommendations identified by the IMPEP Review Team requiring action by the State, those with responses reading "no further action required" indicate that they were addressed in the first bi-monthly progress report, and that either additional action was required, or that there have been no changes to the material previously submitted..

Please call me at (505) 827-1862 should you have any questions.

Sincerely;

William M. Floyd
Program Manager

cc. Mark E. Weidler, Secretary NMED
Ed Kelley, Director Water and Waste Management Division
Benito J. Garcia, Chief Hazardous and Radioactive Materials Bureau

ACTIONS, DOCUMENTATION AND PROCEDURES ADOPTED BY NEW MEXICO RCP TO ADDRESS MRB CONCERNS

INTRODUCTION: Below is a summary list of suggestions and recommendations identified by the IMPEP Review Team as requiring action by the State:

1. The review team recommends that the nuclear pharmacy inspection frequency be modified from 2 years to 1 year. (Section 3.1)

Response: Nothing additional to report since last response.

2. The review team recommends that initial inspections of licensees be performed within 6 months of licensee's receipt of material and commencement of operations, consistent with IMC 2800. (Section 3.1)

Response: All radioactive material licenses issued since the IMPEP Review have been inspected, or will be inspected, within six months of issuance. (i.e.,

	Issued:	Inspected:	No material:
Phase One Molecular	04/97	09/97	
Avid Engineering	12/97		As of 01/98
City of Alamogordo	12/97		As of 1/29/98
Bizzell Power, Inc.	12/97		As of 02/98
Evans Engineering	1/98		As of 02/98
Wyland X-Ray Service	03/98		As of 02/98).

3. The review team recommends that the tracking system be revised to allow initial inspections to be readily identified to staff and management. (Section 3.1)

Response: Nothing additional to report since last response.

4. The review team recommends that the State increase the number of reciprocity inspections to better evaluate the health and safety implications of out-of-state companies working in New Mexico. (Section 3.1)

Response: Since August 1997, a total of 25 reciprocal licenses have entered New Mexico. Of these, fifteen have been inspected on-site. The majority of the reciprocal licensees which were not inspected were due to insufficient notification time. Following is a listing of reciprocal licensees which have entered the State:

Name	Type	Date Entering NM	Inspected	If not, Reason
Westex	IR	09/97	09/97	
Production Logging	WL	08/97		Insuf.notification time.
Transystem Corp.	DM	08/97		Insuf. notification time.
BPB Wireline	WL	08/97		Insuf.notification time.
Gammametrics	DM	08/97		Insuf. notification time.
Agra, Earth & Environmental	IR	08/97		Insuf. notification time.
Dakota Geophysics	WL	12/97	12/97	
ThermNuclean (Soil Volume Reduction).		08/97	08/97	
Nucletron (HDR Reloading)		10/97	10/97	
Amarillo Testing	DM	10/97	10/97	
Nordion (Pool Irradiator))		11/97	11/97	
Transystems	DM	01/98	01/98	
Nucletron (HDR Reloading)		01/98	01/98	
Production Logging	WL	01/98	01/98	
El Paso Nat'l Gas	IR	03/98	03/98	
El Paso Inspection	IR	03/98	03/98	
Century Geophysical	WL	03/98	03/98	
Highlands Environ (NORM)		02/98		Insuf. notification time.
Agra, Earth, & Env.	IR	03/98		Insuf. notification time.
BPB Wireline	WL	02/98		Insuf. notification time.
Speedie Associates	DM	03/98	03/98	
Welenco	WL	01/98		On land under exclusive Federal jurisdiction.
Tru-Tec Division	DM	01/98		Insuf. notification time.
Dakota Geophysics	WL	01/98		Work canceled due to inclement weather.

5. The review team recommends that the State maintain the RCP staffing level to at least the level which existed throughout the review period. (Section 3.2)

Response: The two Environmental Specialist positions vacated since the IMPEP Review were filled effective February 16, 1998. The resumes of the two newly- hired staff members are attached **(See Attachment 1).** Both Mr. Garcia and Mr. Fitch are proving to be excellent employees, being both knowledgeable and highly motivated.

6. The review team recommends that the State provide training personnel in areas of medical brachytherapy and irradiator technology. (Section 3.2)

Response: Bill Floyd, Program Manager for the Radiation Licensing & Registration Section, will meet with Mr. Larry Stephenson, P.E., Director of Environmental Compliance for Protechnics, a Core Laboratories Company, on April 2, 1998, to discuss training for RLRS staff in inspecting pool irradiators, industrial radiographers, gauge operators, and radiation safety for radioactive material laboratory operators. Training in these areas will be from the regulator's perspective (See **Attachment 2** for the course outline of Subsurface Tracer Operations for State Regulatory Personnel; this training was provided to RLRS staff on March 24 and 25; similar outlines will be provided by Mr. Stephenson for training in the other areas). Mr. Stephenson worked for more than 8 years in the Texas Radiation Control Program and consequently has valuable experience in teaching from the regulator's point of view). In regards to further training options, RLRS staff will be attending a three-day course on Advanced Radioactive Material Transportation, March 31 - April 2 (See **Attachment 3**). Also, information on courses available through Los Alamos National Laboratories and Sandia National Laboratories has been received and is being evaluated for usefulness (See **Attachment 4 and 5**). Additionally, Arthur Tate with the Texas Radiation Control Program has been contacted about sending New Mexico RLRS staff to Texas to accompany Texas inspectors as a training exercise. Nordion of Canada will present a two-day training course in Albuquerque on August 24 and 25 on pool irradiators. Also, RLRS staff attended a 5-day EPA sponsored Safety Course on Radiation Safety at Superfund Sites, March 16-20 (**Attachment 6**).

7. The review team recommends that the State develop a formalized training program comparable to IMC 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguard Program Area." (Section 3.2)

Response: As shown in **Attachment 7,** progress continues on developing a formalized training program comparable to IMC1246. A RLRS Training Policy Statement has been completed, as well as a Master Training Matrix. Qualification Journals for all RLRS staff are in the process of being completed.

8. The review team suggest that documentation of license reviewer's actions be maintained in license files. (Section 3.2).

Response: No further action since last response.

9. The review team recommends that the State inspectors attempt to observe licensee operations or demonstrations during all inspections. (Section 3.4).

Response: No further action since last response other than the fact that an additional five management-accompanied inspections have been performed.

10. The review team recommends that the State inspectors conduct independent measurements on all inspections. (Section 3.4).

Response: No further action since last response (i.e., independent measurements have been conducted at all licensees inspected since the last response).

11. The review team recommends that the State increase the rigor of reviewing technical health physics issues during inspections, and increase the breadth and scope of inspections. (Section 3.4).

Response: No further action since last response.

12. The review team suggests the State inspectors attempt to interview ancillary workers during inspections. (Section 3.4).

Response: When available, ancillary staff have been interviewed during all inspections conducted since the last response.

13. The review team recommends that the State inspectors attempt to conduct formal exit meetings with the senior licensee management on all inspections. (Section 3.4).

Response: No further action since last response.

14. The review team recommends that the State develop a formal process for reviewing licensee responses to deficiency letters and closing open deficiencies.

Response: Nothing additional to report since last response.

15. The review team suggests that the State develop a formal process for inspectors and license reviewers to document and transmit pertinent information to each other for follow-up. (Section 3.4).

Response: Nothing additional to report since last response.

16. The review team suggests that the State develop a process for ensuring that inspection files are complete, that all appropriate State documents are prepared and filed, and that licensee responses are received and filed. (Section 3.4).

Response: Nothing additional to report since last response.

17. The review team recommends that the State begin documenting all trips to licensee's or applicant's facilities when inspecting licensed activities, performing special inspections, or performing pre-licensing site visits during construction. (Section 3.4).

Response: Nothing additional to report since last response.

18. The review team recommends that the State management exercise more stringent supervisory review of inspection reports. (Section 3.4).

Response: Nothing additional to report since last response.

19. The review team suggests that the State complete its revision of the inspection report forms, ensuring that each set of forms covers all key areas for the type of licensee being inspected, and that RCP inspectors begin using the standardized form(s). (Section 3.4).

Response: Nothing additional to report since last response.

20. The review team recommends that the State make onsite, documented investigations of incidents, allegations, or misadministrations with potential health and safety effects (i.e., source disconnects, possible over exposures, lost sources, contamination, etc. (Section 3.5).

Response: All incidents have been investigated via on-site visits. Thorough documentation has been provided for all investigations via revised incident report forms.

21. The review team recommends that the State create an incident and allegation reporting form that would, at a minimum, identify the person taking the initial report, list the name and telephone number of the reporting party, provide the details of the incident or allegation as reported, record the State's conversation with the licensee or individual, describe corrective actions taken by the licensee, describe the investigation conducted by the State and the results, list citations or other regulatory actions, show the date the investigation was closed out and justification for closure, show date(s) incident was reported to the NRC or other agencies, and provide spaces for the signatures of the investigator and supervisor. A copy of the form should be maintained in the incident file and in the license file. (Section 3.5).

Response: Nothing additional to report since last response.

22. The review team recommends that the State establish a protocol for making independent investigations and evaluations of the licensee's actions. (Section 3.5).

Response: Nothing additional to report since last response.

23. The review team recommends that the State initiate procedures to ensure incidents are followed-up at the next inspection to verify that the licensee's corrective actions have been implemented. (Section 3.5).

Response: Nothing additional to report since last response.

24. The review team suggests that when evaluating incidents, the State cite appropriate items of deficiencies when applicable. (Section 3.5).

Response: Nothing additional to report since last response.

25. The review team recommends that the State: (a) set up a separate incident and allegation file system in the Santa Fe office, keeping all documents and records pertaining to an incident in one location, with the data cross-referenced to the license/inspection files there and in the Albuquerque office, and (b) establish a system to centrally log and track the progress of incidents and allegations. (Section 3.5).

Response: Nothing additional to report since last response.

26. The review team recommends that the State develop and implement written procedures for responding to events involving radioactive material and conduct training sessions until all staff are fully trained and qualified in emergency response. (Section 3.5).

Response: Nothing additional to report since last response.

27. The review team suggests that the State keep expanding the allegation procedures to include procedures for notifying the person making the allegation of the results of the investigation and including the allegation in the event reporting form, tracking system, and emergency response procedures (Section 3.5).

Response: Nothing additional to report since last response.

28. The review team recommends that the State expedite promulgation of the compatibility-related regulations now overdue and those which are due within the next 12 months. (Section 4.1.2).

Response: As of this date all compatibility language changes have been incorporated into the New Mexico Radiation Protection Regulations. A meeting of the New Mexico Radiation Technical Advisory Council (RTAC) will be scheduled in late April for the Council's advise and consent on these changes. Once RTAC's approval is obtained, the changes will be placed on the agenda of the Environmental Improvement Board (hopefully for the May Board meeting).

29. The review team suggests that a file be maintained with the cover letters and ensuring correspondence of all draft or final regulations sent to the NRC. (Section 4.1.2.).

Response: Nothing additional to report since last response.

Stanley A. Fitch
8301 4th Street, NW #12
Albuquerque, NM 87114
Phone (505) 898-4475

• QUALIFICATIONS SUMMARY

Mr. Fitch has nine years experience in health physics. Five years in support of environmental restoration projects, and four years in support of operations at Sandia National Laboratories.

His environmental restoration assignments were related to uranium mill decommissioning and tailings restoration at both DOE and commercial sites. His tasks provided an excellent health physics basis. Mr. Fitch implemented several health physics programs. Not limited solely to routine health physics surveillance, his tasks included regulatory compliance and enforcement, environmental monitoring, waste characterization, field correlations, and analytical instrumentation in the laboratory. He successfully devised soil verification protocols for tracking, mapping, and analysis of uranium mill tailings remediation. The waste characterization included identification of mixed waste due to RCRA hazardous constituents. He provided primary support for radiation detection instrument calibration and repair. He developed protocol and an extensive database for tracking occupational radiation dose combining external and internal dosimetry. This latter project incorporated the approach referenced in ICRP 26 and ICRP 30, and as implemented in the new (1992) 10 CFR 20. Implementation duties included bioassay and respiratory protection programs. He also managed radioactive shipments in compliance with 49 CFR 173. Mr. Fitch performed extensive writing in health physics procedures.

Since 1993 Mr. Fitch has provided support to Sandia National Laboratories (Radiation Protection Operations). His duties include health physics surveys, regulatory compliance assistance, and occupational hazard assessments for the Facilities Maintenance and Facilities Construction departments. He has demonstrated successful implementation of 10CFR835 and DOE Orders 5480.11 and 5400.5.

Prior to entering health physics, Mr. Fitch served for 10 years as a land surveyor and civil engineering technician. In the 1970's he served 3 years as a plant operator in an uranium oxide production facility.

• CLEARANCE

Active DOE Q-Clearance

• EDUCATION

1987 New Mexico State University A.S. Political Sciences
(Additional classes in mathematics, sciences, and computer science)

Attachment 1

Stanley A. Fitch
8301 4th Street, NW #12
Albuquerque, NM 87114
Phone (505) 898-4475

1990-93 **Lead Health Physics Technician**
Atlantic Richfield Company
ARCO Bluewater Mill
Grants, NM

Assisted in health physics surveillance for an extensive uranium mill restoration project (up to 120 construction personnel during some periods). Duties included environmental and occupational sampling and surveys, management of the health physics databases, analytical lab, dosimetry and bioassay programs. Reconstructions of environmental and occupational exposures, case and project histories. Mr. Fitch was also procedure writer, and provided technical advice and assistance to the site RSO.

Other duties included field and laboratory characterization of soil and wastes, and correlation of radiometric data to action limits to verify restoration criteria. Devised and implemented a database for mapping and tracking field measurements and sample data for environmental restoration. Devised and implemented a database for tracking and reporting internal and external occupational radiation dosimetry. Radiation detection instrument maintenance and calibration. Radioactive materials shipping and receiving in compliance with Department of Transportation regulations.

1989-90 **Lead Health Physics Technician**
Landmark Reclamation
ARCO Bluewater Mill
Grants, NM

Contractor health physics duties to ARCO at the same Bluewater Mill project described above. Duties include occupational monitoring and decommissioning surveys.

1988-89 **Lead Health Physics Technician**
ChemNuclear Systems, Inc.
(Chemical Waste Management)
Ambrosia Lake Uranium Mill
DOE UMTRA Site

Coordinated health physics support for field and laboratory work. Database management. Dosimetry and bioassay program implementation, soil and waste

Mark G. Garcia
3331 Schumacher NW
Albuquerque, New Mexico 87120
(Office) (505) 881-3196
(Home) (505) 833-0773

Professional Experience

MDM Lamb *May, 1997 to February, 1998*
Albuquerque, New Mexico

Health Physicist. Lead author for health physics related issues during the preparation of the *Environmental Assessment of Johnston Atoll Pilot-Scale Technology Demonstrations and the Transport and Disposal of Contaminated Rubble and Soil.* Data collection and reduction in support of Bench-Scale Testing at the Nevada Test Site for *The Plutonium Cleanup Project at Johnston Atoll.* The principal health physicist for the development of surface gamma scanning techniques, utilized during the characterization of a depleted uranium contaminated site. The technique involved the integration of a gamma field survey instruments to a Global Positioning System (GPS).

Science Applications International Corporation *December, 1996 to May, 1997*
Las Vegas, Nevada

Health Physicist. Lead investigator for preclosure (atmospheric dispersion) and postclosure (Groundwater leaching) biosphere modeling at the Yucca mountain project. Working knowledge of several computer codes used for risk assessment associated with the release of radioactive materials to the accessible environment. These computer codes include CAP-88PC, AIRDOS-EPA, GENII, GENII-S, RESRAD, and XoQDoQ. Have reviewed and assessed the implication of numerous Regulatory Guides to the project, specifically Reg. Guide 1.109, 1.111, 1.23, 1.3, 1.4, and 1.145. I have worked with the biosphere working group to develop site specific FEP's (Feature, Events, and Processes). During this process the outline set forth by BIOMOVS II was utilized. This outline involves the use of the Rock Engineering System (RES) matrix.

City of Albuquerque Public Works *January, 1996 to November, 1996*
Wastewater Utility Division
Albuquerque, New Mexico

Program Specialist III / Health Physicist. Develop and implement Radioactive Discharge Management Program (RDMP) for the City of Albuquerque Wastewater Utility Division. Program activities include: establish a permitting, monitoring, and reporting program; develop a sampling program to obtain data on radioactive material in the regional environment, including soils, river sediments, river water and sewage; model environmental exposure scenarios using computer models such as GENII and RESRAD to assess potential exposure to the general public and the workers at the wastewater utility department; collect and update information regarding radioactive discharges to sewers from licensees; develop a cooperative working relationship with potential dischargers to ensure compatibility between regulatory requirements and community concerns.

Lamb Associates Inc. *March, 1995 to September, 1995*
Albuquerque, New Mexico

Nuclear Engineer / Junior Health Physicist. Contract work with Sandia National Laboratories Environmental Remediation Field Office, participation in all aspects of ER scoping sampling (both surface and subsurface), while following all OSHA standards listed in 1910.120 that apply to environmental sampling, waste storage, and handling. Worked on various occupational and environmental health physics projects. Developed and maintained radiation protection manuals for nuclear medicine and diagnostic radiology for local hospitals.

Albuquerque Medical Physics *December, 1994 to March, 1995*
Albuquerque, New Mexico

Assistant Medical/Health Physicist. Assisted in all areas of hospital health physics which include nuclear medicine audits, dose calculations for patient and fetus, equipment calibrations and shielding design.

Presbyterian Hospital *November, 1990 to December, 1994*
Albuquerque, New Mexico

Nuclear Medicine Technologist. Performed all duties required to run a nuclear medicine department. This includes: radiopharmaceutical preparation, quality control, and injection; patient handling and imaging; quality control on all instruments used in a clinical nuclear medicine department.

Education

University of New Mexico *1991 to 1994*
Albuquerque, New Mexico

Masters of Science in Nuclear Engineering. Completed graduate program in occupational and environmental health physics / radiation protection engineering. Extensive training with radiation detection systems and nuclear measurement techniques with special emphasis on selection of sampling techniques and instrumentation for measuring low levels of radiation in air, soil, and water.

University of New Mexico *1985 to 1990*
Albuquerque, New Mexico

Bachelors of Science in Medical Technology / Nuclear Medicine Technology. Completed undergraduate programs that included extensive training at local hospitals. Experience with clinical laboratory and nuclear medicine department equipment.

Certifications

American Board of Health Physics. Eligible for ABHP board examination in *1996.*

American Registry of Radiologic Technologists. Registered Technologist in Nuclear Medicine Technology. Certificate number 242326. *August 1990.*

Nuclear Medicine Technology Certification Board. Registered Nuclear Medicine Technologist. Certificate Number 012774. *September 1990.*

The National Certification Agency For Medical Personnel. Certified Clinical Laboratory Scientist. *August 1989.*

American Society of Clinical Pathologist. Certified Medical Technologist. *September 1989.*

Publications

M.L. Miller, C.R. Bowman and M.G. Garcia; Roy F. Weston, Inc. and City of Albuquerque Wastewater Utility Division. "Avoiding Potential Problems from Accumulation of Radionuclides in Municipal Wastewater Sludge", Presented at Health Physics Society 41st Annual Meeting, Seattle, Washington, July, 1996.

FAX TRANSMISSION

PROTECHNICS ENVIRONMENTAL
1160 DAIRY ASHFORD, STE 444
HOUSTON, TEXAS 77079
(281) 496-3734
FAX: (281) 679-9876

To:	**BILL FLOYD**	**Date:**	**February 23, 1998**
Fax #:	**(505) 827-1544**	**Pages:**	**4, including this cover sheet.**
From:	**LARRY J. STEPHENSON**		
Subject:	**TRACER TRAINING COURSE**		

COMMENTS:

Bill:

Attached is the outline for the upcoming training course. I added information about performing an inspection of a tracer operation. We can change any or all of this outline to fulfill your specific needs.

Call me after your review. We also need to set the dates for the course.

Larry J. Stephenson

ProTechnics Environmental

a Division of Core Laboratories, Inc.

1160 Dairy Ashford, Suite 444
Houston, Texas 77079
Phone: (281) 496-3734
Fax: (281)679-9676

SUBSURFACE TRACER OPERATIONS FOR STATE REGULATORY PERSONNEL

I INTRODUCTION

II HISTORY OF TRACER OPERATIONS

III CURRENT METHODS OF TRACER INJECTION (HIGH PRESSURE/ LOW PRESSURE)

1. AREAS OF POTENTIAL CONTAMINATION
2. TYPES OF INCIDENTS THAT CAN OCCUR

IV MANUFACTURER OF TRACER MATERIAL

A. SOLID TRACERS
B. GAS TRACERS
C. LIQUID TRACERS

V RADIOACTIVE MATERIAL LICENSE REQUIREMENTS

A. ISOTOPES
B. QUANTITY LIMITATIONS
C. LICENSED USES
D. FORMS OF MATERIAL
E. LICENSE CONDITIONS

VI OPERATING AND EMERGENCY PROCEDURES

A. ORGANIZATION AND RESPONSIBILITIES
B. FACILITY LAYOUTS
C. RADIATION SAFETY PROGRAM
D. EMERGENCY PROCEDURES
E. TRAINING FOR TRACER PERSONNEL
F. RADIOACTIVE TRACER HANDLING PROCEDURES
G. TRACER WATER FLOOD PROCEDURES
H. BIOASSAY PROCEDURES

I. RADIOACTIVE WASTE DISPOSAL
J. RECEIVING AND MONITORING RADIOACTIVE TRACERS
K. TRANSPORTATION OF RADIOACTIVE MATERIAL
L. COLLAR MARKER PROCEDURES

VII STATE REGULATIONS FOR TRACER OPERATIONS

VIII D.O.T. REQUIREMENTS FOR TRANSPORTATION OF TRACER MATERIAL

IX RADIATION INSTRUMENTATION FOR TRACER OPERATIONS

X REGULATORY INSPECTION OF TRACER OPERATIONS

A. PREPARATION FOR INSPECTION

1. LICENSE REVIEW
2. OPERATING AND EMERGENCY PROCEDURE REVIEW
3. REGULATION REVIEW
4. PREVIOUS VIOLATIONS NOTED

B. MANAGEMENT ENTRANCE INTERVIEW

C. INSPECTION TOUR

D. CONFIRMATORY MEASUREMENTS

E. FOLLOW UP ON ITEMS OF NONCOMPLIANCE

F. FOLLOW UP ON REPORTS SUBMITTED TO THE AGENCY

G. ORGANIZATION

H. LICENSEE AUDITS

I. TRAINING PROGRAMS

J. RADIATION PROTECTION PROGRAM

K. RADIATION SAFETY EQUIPMENT AND INSTRUMENTATION

1. INTERNAL EXPOSURE PROTECTIVE EQUIPMENT
2. EXTERNAL EXPOSURE PROTECTIVE EQUIPMENT

L. RECEIPT, TRANSFER AND DISPOSAL

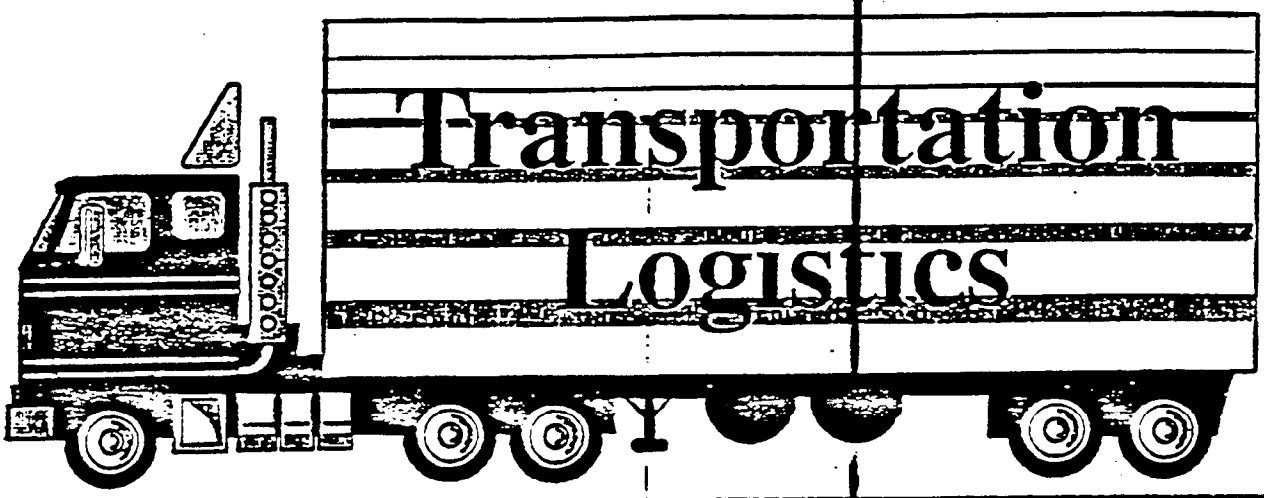
M. TRANSPORTATION PROGRAM

N. POSTING OF NOTICES/PROCEDURES/LICENSE, ETC.

O. ENVIRONMENTAL MONITORING PROGRAM

P. EMERGENCY PLANS

Q. MANAGEMENT EXIT INTERVIEW



Logistical Studies • Site Assessment • Automated Systems • Safety & Compliance Training • Regulatory Review & Analysis • Carrier Evaluations • Traffic Management • Onsite/Offsite Hazmat Shipping

Date: 3/

To: Bill Floyd

Location:

Phone:

Fax: 505-827-1544

Verify:

From: Margie A. Dronen

Location: 345 Hills, Rm 171

Phone: (509) 376-8226

Fax: (509) 376-2364

Verify: (509) 376-8226

Number of Pages Including Cover 3

Message: Confirmation for:

Stan Fitch
Mark Garcia
Margaret Lopez
Walter Medina
Jerrie Moore

Adv RAM - Mar. 31 - Apr. 1, 1998 - Albuq.

Thank You!

James H. Portsmouth, Manager
Transportation Logistics
(509) 376-7164
Fax: (509) 376-2364

Waste Management Federal Services, Inc.
Nothwest Operations
P.O. Box 650, MSIN H1-14
Richland, Washington 99352-0700

Attachment 3

CONFIRMATION NOTICE

Advanced Radioactive Material Transportation

National Transportation Program

Dates: Tuesday, March 31, 1998 - Thursday, April 2, 1998
Time: 8:00 a.m. - 5:00 p.m. each day

Location:
Energy Training Center (ETC)
Kirtland Air Force Base
1401 Maxwell St.
Albuquerque, NM 87118
Phone: (505) 845-5402 Fax: (505) 845-5262

Per Diem: $70 Lodging / $34 Meals

Badges: Students tell guard at gate you are DOE and attending a class at the Energy Training Center (ETC).

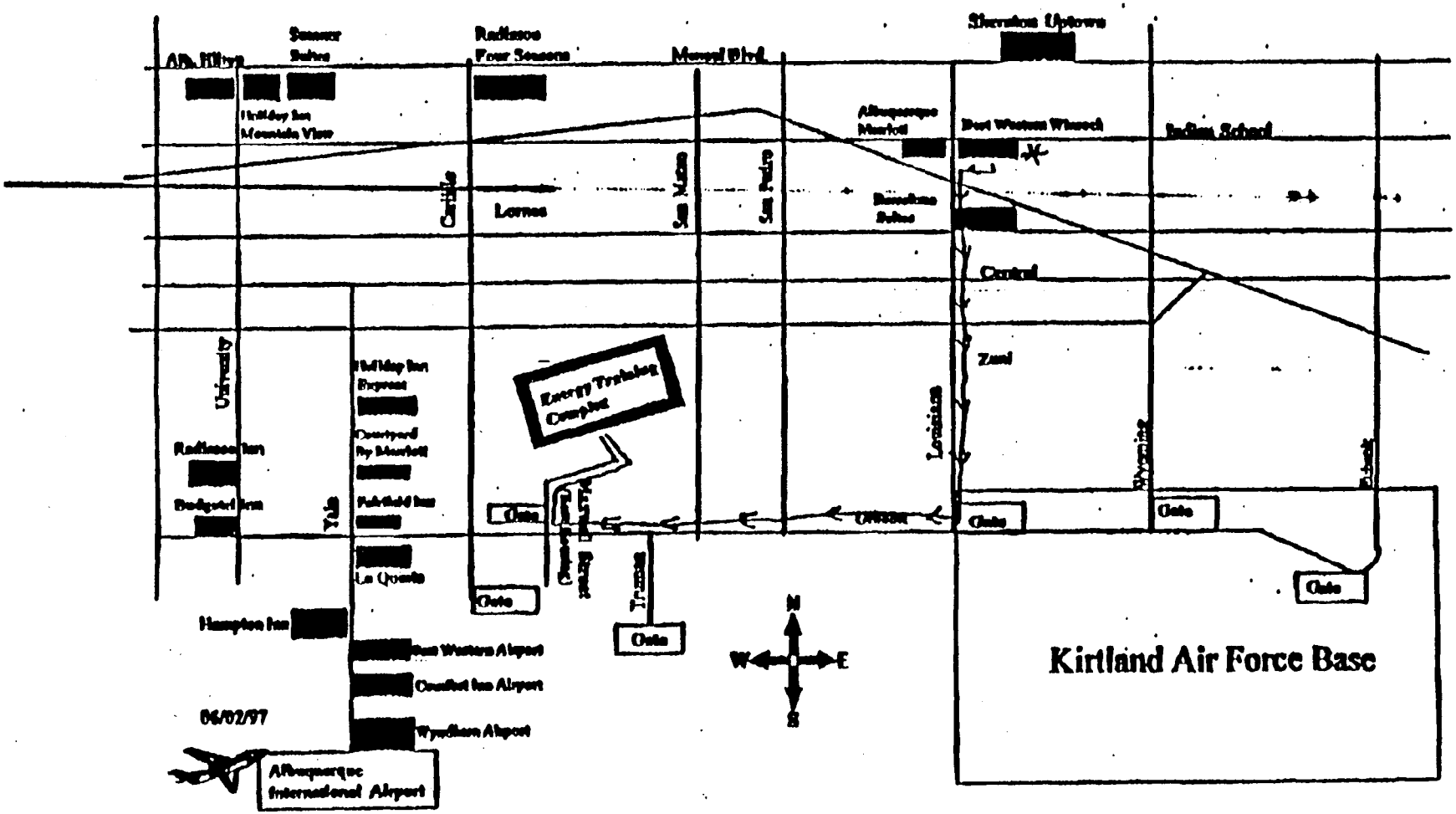
Required Material: Calculator

Lodging: For your convenience, a block of sleeping rooms have been reserved at the following hotel under the group name "Department of Energy "(DOE). Reservations are your responsibility. The cut off date to make your hotel reservation is **February 23, 1998.** When checking-in and out, be sure that your room rate is within government per diem.

Winrock Inn
18 Winrock Center, N.E.
Albuquerque, New Mexico 87110
(505) 883-5252 Fax: (505)889-3206
(800) 866-5252

Directions:
From Albuquerque International Airport to Winrock Inn:
Please see attached map.
From Winrock Inn to Kirtland Air Force Base:
Please see attached map. Allow 20 minutes travel time in case of heavy morning traffic.

Energy Training Complex, ETC
1401 Maxwell St. KAFB West, Albuquerque, NM. 87118
Phone (505) 845-5402 FAX(505) 845-5262



Los Alamos
National Laboratory

Safeguards Science and Technology, NIS-5

FAX Transmittal Cover Sheet
Informal Correspondence

Date	2/26/98
Time	9:02:43 AM
Number of pages (including this page)	7

☐ FAX Sent
Date 2/26/98
Sender AM

☐ GTDA Correspondence

FROM:

Sending Station

Name	Arlene M. Merayo
Signature	Arlene Merayo
Company	Safeguards Science and Technology (NIS-5) Los Alamos National Laboratory P. O. Box 1663 MS E540 Los Alamos, NM 87545 USA
Phone No.	505/667-5258
FAX No.	505/665-5055
Confirm No.	505/667-5258

TO:

Receiving Station

Name:	William Floyd
Company:	
Phone Number:	
FAX Number:	827-1544
Confirm Number:	
Subject:	

Message

Find attached information regarding our training courses (reguested by Joe Wachter). Thanks.

Distribution

Attachment 4

LANL/DOE Safeguards Technology Training Program
Los Alamos National Laboratory

The Los Alamos/DOE Safeguards Technology Training program was begun in 1973 with a single, week-long training course on the *Fundamentals of Nondestructive Assay of Nuclear Material.* The program has grown over the succeeding 18 years to four courses that serve the full DOE complex, NRC, the domestic nuclear facilities and international safeguards practitioners. The courses offered by Los Alamos Nuclear safeguards staff are a unique resource for the support of US nuclear materials accounting and safeguards and US Non-proliferation policies. The courses are taught by the research staff and involve actual hands-on measurement experience with real nuclear material samples and with instrumentation currently available for field and in-plant measurements. It is anticipated that demand for these laboratory NDA courses will expand, in view of the increased emphasis by the Department of Energy on Materials Accounting and technical support of US Nonproliferation initiatives.

The Los Alamos Safeguards training resource has also extended beyond the DOE-sponsored courses to become an integral part of the IAEA Inspector Training Program and the US Nuclear Non-Proliferation Act (NNPA)-Mandated Safeguards Training for developing countries. As such, the DOE Safeguards Research and Development Program and its associated Technology Training Program provide widespread practical training on nondestructive assay techniques for application in nuclear materials accounting, process control, nuclear and criticality safety, and nuclear safeguards.

Presented below are brief synopses of the current repertoire of courses offered through the LANL/DOE Safeguards Technology Training Program. For more information: Contact Janet Sander [505-667-5258 , FAX 505-665-5055] Los Alamos National Laboratory, Safeguards Technology Training Program, P.O. Box 1663, Mail Stop E540, Los Alamos, NM 87545.

Course Title: *Nondestructive Assay Techniques for Safeguards Practitioners - MCA-241 . April 6–10, 1998*

Designed for: Experienced practitioners in the area of nuclear material assays for material accounting and process control. The course is open to DOE contractor and NRC licensee employees who manage or perform nuclear material assays for these purposes. Employees of other organizations are accepted on a space-available basis.
Hours: 36 (4.5 days) Course is offered approximately annually.
Description: This course is an introduction to the nondestructive assay (NDA) of nuclear materials using both gamma-ray and neutron measurement techniques. Topics include gamma-ray and neutron interactions with matter, detectors, uranium enrichment measurement, transmission-corrected gamma-ray assays, neutron singles counting, and both active and passive neutron coincidence counting. Both uranium- and plutonium-bearing materials are measured. Curriculum involves plenary lectures to introduce the topics, followed by hand-on laboratory measurements to illustrate the concepts. Activities involve the use of radioactive materials. Attendance is limited to 32 students.
Goals of the course:

- To provide the student with first-hand measurement experience with neutron and γ-ray assay methods
- To acquaint the student with the NDA instrumentation available for needed measurements
- To provide the student with the knowledge to apply appropriate measurement techniques to various NDA problems

Prerequisites: Some experience with nuclear radiation measurement equipment is desirable, as is familiarity with nuclear radiation and associated mathematics. Although not required, successful completion of the CTA course MCA-140 is recommended.

LANL/DOE Safeguards Technology Training Program
Los Alamos National Laboratory

Course Title: *Gamma-Ray Spectroscopy for Nuclear Materials Accounting - MCA-343 (not offered in 1998)*

Designed for: Experienced practitioners in the area of nuclear material assays for material accounting and process control. The course is open to DOE contractor and NRC licensee employees who manage or perform nuclear material assays for these purposes. Employees of other organizations are accepted on a space-available basis.
Hours: 36 (4.5 days) Course is offered approximately annually.
Description: This course covers the use of high resolution gamma-ray spectroscopy to measure various uranium and plutonium materials. Topics include uranium and plutonium isotopics measurements, transmission-corrected assay techniques including the segmented gamma scan procedure, absorption-edge densitometry, and x-ray fluorescence. Bench-top apparatus and measurements are used to illustrate basic assay principles and also to demonstrate complete automated systems for in-plant use. Activities involve the use of radioactive materials. Attendance is limited to 24 students.
Goals of the course:

- To provide the student with first-hand measurement experience with advanced, high-resolution gamma-ray assay methods
- To acquaint the student with the advanced NDA instrumentation available for needed measurements
- To provide the student with the knowledge of measurement physics and data analysis techniques for application to various NDA problems

Prerequisites: Although not required, successful completion of the CTA course MCA-140 is recommended. Also recommended are previous experience with nuclear radiation measurement equipment and familiarity with nuclear radiation and associated mathematics.

Course Title: *Materials Accounting for Nuclear Safeguards - MCA-111 March 9–13, 1998*

Designed for: Experienced Nuclear Safeguards practitioners who operate, manage, or evaluate materials accounting systems.
Hours: 36 (4 1/2 days)
Description: The course covers methods for designing and implementing conventional and near-real-time accounting systems for safeguarding nuclear material. Lecture topics include Basic Materials Accounting Concepts, The Structure of Safeguards Systems, Measurement Technology, Measurement Control, Statistical Basis of Materials Accounting, Nuclear Material Holdup, Materials Accounting at specific types of facilities, MC&A system decision analysis and detection sensitivities, and International Safeguards. Short workshops are conducted on topics such as NDA measurement technology, measurement statistics, simulation of materials accounting, measurement control, and error propagation.
Goals of the course: Upon successful completion of this course, attendees will be familiar with the basic concepts of nuclear materials accounting systems and the roles of the associated technologies and techniques to operate such a system.
Prerequisites: Although not required, prior completion of the CTA course MCA-101 is recommended.

LANL/DOE Safeguards Technology Training Program
Los Alamos National Laboratory

Course Title: *Nondestructive Assay Inspector Training Course*
February 3–13, 1998

Designed for: IAEA inspectors with less than 1 year's experience who perform safeguards inspections in nuclear facilities worldwide.
Hours: 68 (8 1/2 days). Tuesday morning through the following Friday noon.
Description: This course provides broad and in-depth experience with both neutron and gamma-ray NDA techniques for quantitative measurement of SNM items. Topics include basic neutron detector and gamma-ray detector designs, active and passive neutron coincidence measurements, and gamma-ray measurements of uranium enrichment, plutonium isotopic composition, and spent-fuel characteristics. The course concludes with a team-oriented performance test in which unknown SNM inventory items are characterized and quantified to establish an inventory. Attendance is limited to 12 students.
Goals of the course: Upon successful completion of this course, attendees will be thoroughly familiar with the appropriate nondestructive assay instruments and techniques available for needed measurements.
Prerequisites: Previous experience with nuclear radiation measurement equipment is recommended. Familiarity with nuclear radiation and associated mathematics is assumed.

Course Title: *Nondestructive Assay of Special Nuclear Materials Holdup - MCA-243* *April 27–May 1, 1998*

Designed for: Experienced practitioners in the area of nuclear material assays for material accounting and process control. The course is open to DOE contractor and NRC licensee employees who manage or perform nuclear material assays for these purposes. Employees of other organizations are accepted on a space-available basis.
Hours: 36 (4.5 days) Course is offered approximately annually.
Description: This course covers the application of basic nondestructive assay techniques and field-portable instrumentation to the measurement of nuclear material holdup deposits in process equipment and ductwork. Laboratory exercises will emphasize procedures for calibration and measurement of uranium and plutonium holdup, using mainly gamma-ray instrumentation and a generalized-geometry approach. Measurements will be performed on simulated deposits using SNM standards inserted within equipment (pipes, ducts, tanks, pumps, etc.) that represents process equipment hardware. Equipment attenuation and self-attenuation effects will be considered. Laboratory experiments will be supplemented with lectures on topics related to holdup measurements. Activities involve the use of radioactive materials. Attendance is limited to 24 students.
Goals of the course:

- To provide the student with first-hand measurement experience with portable nondestructive assay equipment under in-plant conditions
- To acquaint the student with measurement strategies and techniques that minimize measurement uncertainties
- To provide the student with the knowledge of the generalized-geometry approach to calibration and data analysis for the varied measurement geometries encountered in holdup measurement campaigns

Prerequisites: The following are recommended: Experience with nuclear radiation measurement equipment, practical experience with nuclear radiation and associated mathematics, and successful completion of the CTA course MCA-140.

LANL/DOE Safeguards Technology Training Program
Los Alamos National Laboratory

Course Title: *International Training Course on State Systems of Accounting for and Control of Nuclear Materials (SSAC)*
May 3–21, 1999

Designed for: Nuclear technologists in developing countries that have acquired or are about to acquire nuclear technology.
Hours: 3 weeks. Two weeks in Santa Fe on general SSAC principles and experience. One week in a model facility to illustrate application of a SSAC.
Description: This course is mandated by the US Nonproliferation Act of 1978 and provides in-depth information on how to design a State System of Accounting for and Control of Nuclear Material that will allow full-scope IAEA safeguards of that state's nuclear facilities. System attributes are discussed for many possible facilities, and examples of SSACs in place worldwide are described. The course finishes with a workshop in which a SSAC is designed for a model facility.
Goals of the course: Upon successful completion of this course, attendees will be thoroughly familiar with the requisite attributes of a SSAC and with the requirements for appropriate interaction with the IAEA.
Prerequisites: Familiarity with the nuclear fuel cycle and experience in state nuclear programs is assumed in those students invited to attend.

Ad-Hoc Training for International Safeguards Practitioners:

Designed for: Nuclear facility operators and international inspectors who must verify the effectiveness of materials accounting systems or perform nonproliferation-motivated inspections.
Hours: Has varied from 2 days to one week. Training has been offered on request to international inspection teams, and state facility personnel.
Description: This training has provided lecture materials and hands-on experience on in-field nuclear measurements, search/survey techniques, and data evaluation and interpretation in the context of materials accounting and nonproliferation goals. Measurements are made in simulated in-plant or in-field conditions, with real samples of special nuclear materials that replicate sample attributes expected in real field exercises.
Goals of the course: Upon successful completion of this course, attendees will be familiar with in-field inspection techniques involving nuclear measurements and associated data evaluation.
Prerequisites: Familiarity with the nuclear measurements, instrumentation, and associated mathematics, as well as experience in nuclear fuel-cycle facilities and programs.

Waste and Residue NDA Measurements

1998

Days required for course: approximately 4.5

Course topics

- Waste certification regulatory requirements
- Safeguards requirements
- Neutron NDA techniques
- Gamma NDA techniques
- Segmented and Tomographic gamma-ray scanning
- Differential Dieaway and Combined Thermal-Epithermal Neutron Interrogation
- Neutron Coincidence Counting, Add-a-Source, and Californium Shuffler techniques

Attendance Limit: 24 Students

Course objectives

- First-hand measurement experience with advanced neutron and gamma-ray instruments
- Understanding of how existing NDA equipment applies to waste characterization and safeguards issues
- Demonstrate the use of NDA radiation measurement techniques and equipment to assay TRU and low level contact handled waste

Experience with nuclear radiation measurement equipment is desirable, as is familiarity with nuclear radiation and associated mathematics. Although not required, completion of CTA course MCA-140 is recommended.

Waste and Residue Nondestructive Assay (NDA) Measurements Training School

Description:

This course will provide plenary lectures on waste assay requirements for safeguards, waste characterization requirements to meet waste acceptance criteria, and neutron and gamma-ray based waste and residue NDA techniques. Three major course modules will provide hands-on training with actual instruments used to assay radioactive isotopes in 55 gal. drums: (1) the Segmented Gamma-ray Scanner (SGS) and the Tomographic Gamma-ray Scanner (TGS); (2) Neutron Coincidence Counting with Add-a-Source, and the Californium Shuffler; (3) the Differential Dieaway Technique, Combined Thermal Epithermal Neutron Interrogation. Each module will cover topics such as calibration procedures and use of standard reference materials; matrix effects, limitations, corrections; response variation due to radioactive material distribution within the waste drum; sensitivity; lump effects (gamma) / self-shielding (neutron) corrections; isotope identification/ratios (gamma) and their importance for neutron assay; scope of the techniques with respect to waste forms and limitations. The course will conclude with a workshop session between instructors and students on the particular waste problems of most interest to the students.

Goals:

Upon successful completion of this course, attendees will have gained the following:

- An understanding of current DOE safeguards and characterization issues associated with waste and residue measurements.
- Hands-on training in the operation and use of major waste and residue NDA systems.
- Knowledge needed to apply appropriate measurement techniques to the waste and residue materials present in their facilities.

Designed For:

Experienced radioactive measurement technicians who operate waste assay instruments and their technical supervisors. Also, auditors and regulators who must judge the results of the waste measurements and make declarations on the hazardous material documents. The course is open to DOE contractor and NRC licensee employees; employees of other organizations are accepted on a space-available basis. (Attendance is limited to 24 students.)

Prerequisites:

Some experience with nuclear radiation measurement equipment and techniques is desirable. Attendees should have a knowledge of gamma-ray spectroscopy and neutron counting, but these topics will be reviewed. Although not required, successful completion of MCA-140 ("Basics of MC&A Measurement") is recommended.

Location:

The course will be conducted at Los Alamos, New Mexico.

Duration: 4.5 days

Time Frame:

The first offering of the school will be June 3 through June 7, 1996.

Training for Radioactive Materials & Licensing Program
Classes offered by Sandia National Laboratory

Course	No. of Staff Attending	Course Cost	Total
Field Instrumentation	5	$162.00	$810.00
Laboratory Spill Cleanup	5	$163.00	$815.00
Radiological Worker I Training ✓	5	$152.00	$760.00
Radiological Worker II Training ✓	5	$176.00	$880.00
Portable Survey Instrument Training	5	$127.00	$635.00
TOTAL			**$3900.00**

Attachment 5

AGENDA

RADIATION SAFETY AT SUPERFUND SITES (165.11)

City, State

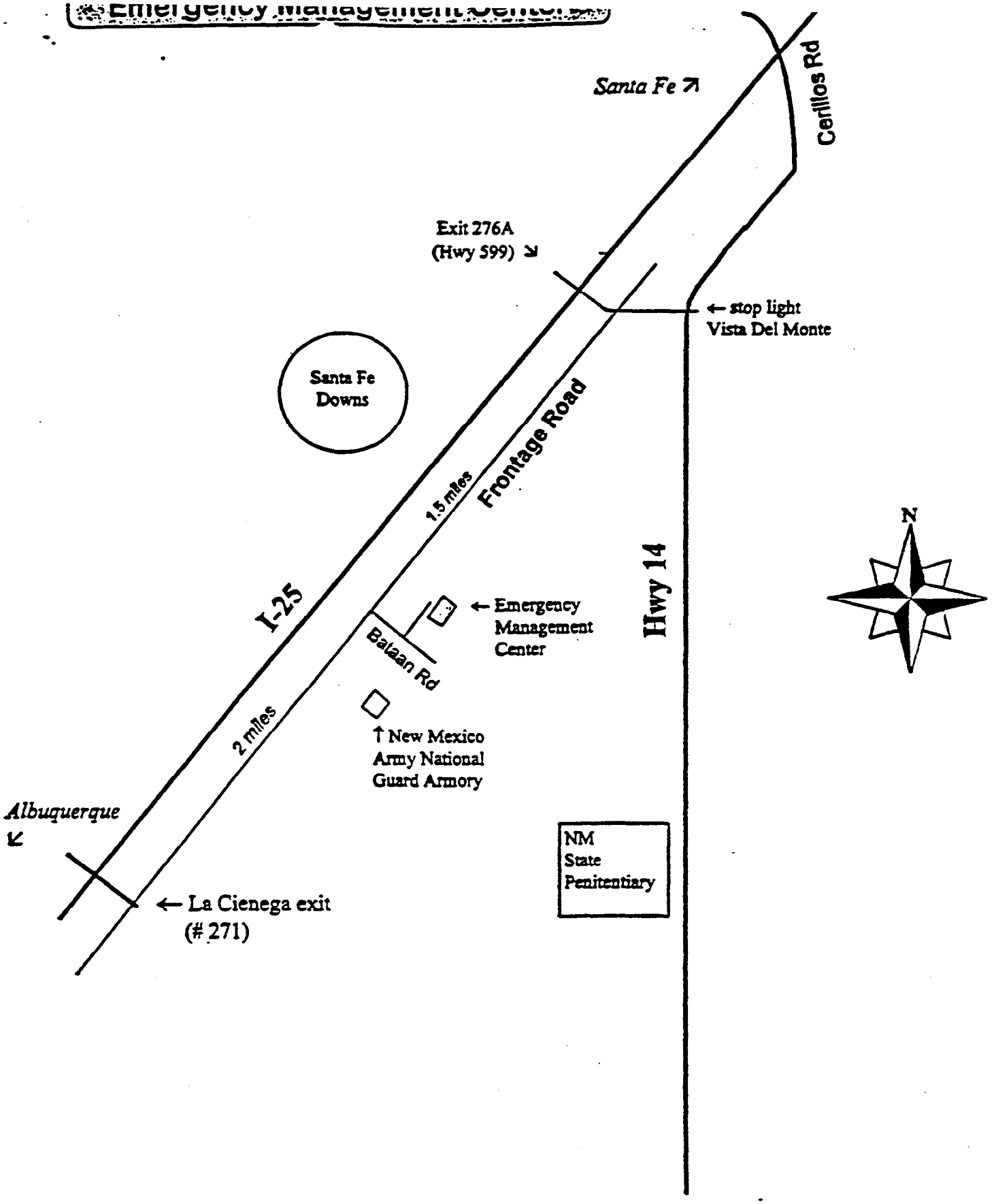
Date

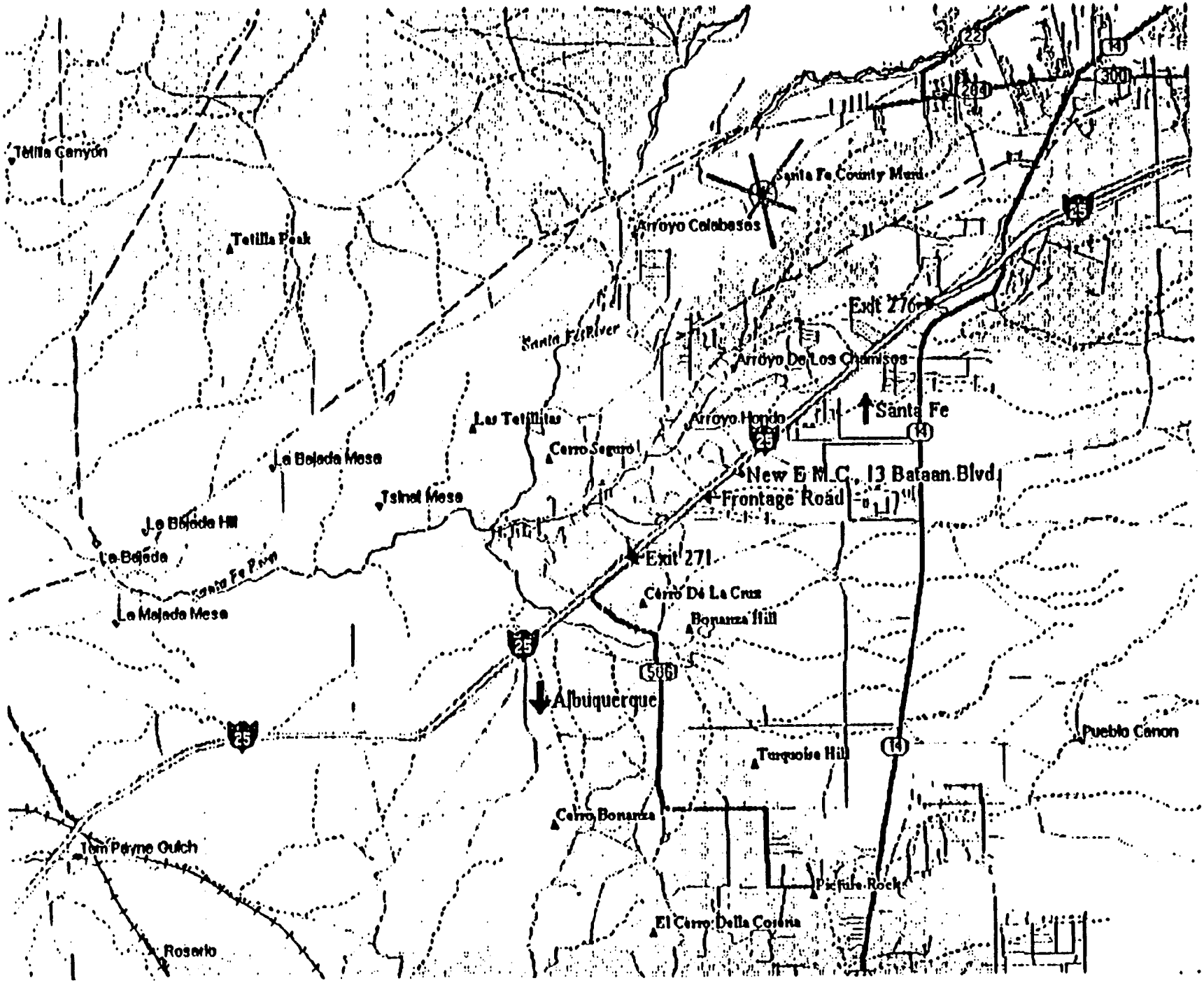
Course Director:	Name of Course Director
Instructors:	Name of Instructor
	Name of Instructor
Technician:	Name of Technician

Day and Time	Subject	Speaker
Monday		
12:30 - 2:00 p.m.	Orientation and Introduction	
2:10 - 3:00 p.m.	Atomic Structure and Radioactive Decay	
3:10 - 4:00 p.m.	Interaction of Radiation with Matter	
4:10 - 5:00 p.m.	Radiation Exposure and Biological Effects	
5:10 - 6:00 p.m.	Radiation Exposure Limits and Methods to Control Exposure	
Tuesday		
8:00 - 8:30 a.m.	Basic Concepts in Radiation Detection and Measurements	
8:40 - 9:30 a.m.	Radiation Detection Instruments	
9:40 - 10:30 a.m.	Surveying for Radioactive Materials	
10:40 - 12:30 p.m.	Exercise: Radiation Survey Meters 1. Exposure Rate Meters/Dosimeters 2. Count Rate Meters 3. Bench Counters	
12:30 - 1:30 p.m.	Lunch	
1:30 - 5:00 p.m.	Exercise: Radiation Survey Meters (cont.) 1. Exposure Rate Meters/Dosimeters 2. Count Rate Meters 3. Bench Counters	
Wednesday		
8:00 - 8:15 a.m.	Dosimeter Calibration Check	

Attachment 6

Day and Time	Subject	Speaker
Wednesday (cont.)		
8:20 - 9:50 a.m.	Exercise: Characteristics of Unknown Sources/Dose Assessment	
10:00 - 10:50 a.m.	Radiation Signs and Labels	
11:00 - 12:00 p.m.	Contamination Control	
12:00 - 1:00 p.m.	Lunch	
1:00 - 1:50 p.m.	Anti-Contamination Clothing and Respiratory Protection Devices	
2:00 - 2:50 p.m.	Radiological Control Area Demonstration	
3:00 - 3:50 p.m.	Decontamination	
4:00 - 5:00 p.m.	Problem Session: Decontamination	
Thursday		
8:00 - 8:50 a.m.	Radioactive Material Packaging, Labeling, and Shipping	
9:00 - 9:50 a.m.	Radioactive Soil and Water Sampling	
10:00 - 12:00 p.m.	Exercise: Site Work Day 1. Initial Entry and Count Room 2. Contamination Survey Station 3. Simple Soil and Water Sampling Protocol	
12:00 - 1:00 p.m.	Lunch	
1:00 - 5:00 p.m.	Exercise: Site Work Day (cont.) 1. Initial Entry and Count Room 2. Contamination Survey Station 3. Simple Soil and Water Sampling Protocol	
Friday		
8:00 - 8:50 a.m.	Regulations and Guidance on Radioactive Waste Disposal	
9:00 - 9:50 a.m.	Remedial and Disposal Options	
10:00 - 10:20 a.m.	Course Closing	
10:30 - 11:30 a.m.	Course Exam	


Emergency Management Center
Santa Fe
Cerrillos Rd
Exit 276A
(Hwy 599)
stop light
Vista Del Monte
Santa Fe
Downs
1.5 miles
Frontage Road
I-25
Hwy 14
Bataan Rd
Emergency
Management
Center
New Mexico
Army National
Guard Armory
2 miles
Albuquerque
NM
State
Penitentiary
La Cienega exit
(# 271)
N


Tetilla Canyon
Tetilla Peak
Santa Fe County Mud
Arroyo Calabasas
Exit 276
Santa Fe River
Arroyo De Los Chamisos
Las Tetillitas
Arroyo Hondo
Santa Fe
Cerro Seguro
La Bajada Mesa
New E M C, 13 Bataan Blvd
Frontage Road
Tsinat Mesa
La Bajada Hill
La Bajada
Exit 271
Cerro De La Cruz
Bonanza Hill
La Majada Mesa
Albuquerque
Pueblo Canon
Turquoise Hill
Cerro Bonanza
Tom Payne Gulch
Pueblo Rock
El Cerro Della Colena
Rosario

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

March 30, 1998

Subject: RLRS Licensing and Inspection Training Policy

This document states the policy for training and qualification of personnel involved in radiological licensing and inspections for the New Mexico Environment Department, Hazardous and Radioactive Materials Bureau, Radiation Licensing and Registration Section (RLRS).

RLRS personnel must understand the facilities, equipment, processes, and activities of the programs they inspect or license, as well as the criteria, techniques, and mechanics of inspection and licensing. The qualification process will provide inspectors and license reviewers with sufficient information to conduct inspections and license reviews that are technically correct and in accordance with NRC regulations, policies and procedures.

To provide standardized training protocol for licensing and inspections as set forth in NRC Inspection Manual Chapter 1246, this document mandates formation of the HRMB-RLRS Radiation Protection Licensing and Inspection Training Procedure.

Personnel assigned as inspectors or license reviewers in the RLRS program must successfully complete requirements for inspection and/or licensing as detailed in individual Qualification Journals. Inspectors and license reviewers have 2 years to complete the Qualification Journals, and are required to complete refresher training at intervals not to exceed 3 years. Until qualification is complete, the RLRS Program Manager may, at his/her discretion, assign personnel to inspection and licensing activities for which they have demonstrated adequate competency based on NRC criteria.

William M. Floyd - Manager
Radiation Licensing and Registration Section

Attachment 7

MASTER TRAINING MATRIX

Training Categories	Inspection	Licensing	Stanley Fitch	Mark Garcia	Margaret Lopez	Walter Medina	Jerrie Moore
SELF STUDY							
NRC Orientation	✓	✓					
CFRs	✓	✓					
Regulatory Guides	✓	✓					
NRC Inspection Manual	✓	✓					
Industry Codes and Standards	✓	✓					
Licensing/Inspection Site Visits	✓	✓					
NRC Management Directives	✓	✓					
Review of Significant Events	✓	✓					
Directed Review of Selected Licensing and Inspection Casework	✓	✓					
BASIC TRAINING and O.J.T.							
Overall program orientation	✓	✓					
Review of State Regulations	✓	✓					
Review of location of Reg. Guides and reference material	✓	✓					
Essentials of Inspection	✓	Opt					
Essentials of Licensing	Opt	✓					
Essentials of Transportation	✓	Opt					
COURSE TRAINING							
Effective Communications for NRC Inspectors (OP)	C						
Inspection Fundamentals and Procedures (G-101 or G-108)	C	S					
Licensing Practices and Procedures (G-109)		C					
OSHA Indoctrination (G-111)	C						
Root Cause/Incident Investigation Workshop (G-205)	C						
Inspecting for Performance - Materials Version (G-304)	C						
NMSS Radiation Worker (H-102) or Site Access (H-100)	C						
Environmental Monitoring for Radioactivity (H-111)	S	S					
Air Sampling for Radioactive Material (H-119)	S	S					
Radiological Surveys in Support of Decommissioning (H-120)	S						
Health Physics Technology (H-201)	C	C					
Diagnostic and Therapeutic Nuclear Medicine (H-304)	C	C					
Safety Aspects of Industrial Radiography (H-305)	C	C					
Transportation of Radioactive Material (H-308)	C	C					
Respiratory Protection (H-311)	S						
Internal Dosimetry and Whole Body Counting (H-312)	S	S					
Teletherapy and Brachytherapy Course (H-313)	C	C					
Safety Aspects of Well Logging (H-314)	S	S					
Irradiator Technology (H-315)	S	S					
REFRESHER TRAINING			*(Required every 3 years during refresher training of other courses.)*				
Fundamentals of Inspection Refresher (G-102)	✓						
Health Physics Topical Review (H-401)	✓	✓					
SUPPLEMENTAL TRAINING							

Inspection/Licensing Codes: ✓ = Required C = Core S = Specialized

Attachment 2

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

May 29, 1998

Richard L. Bangart, Director
Office of State Programs
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Bangart:

As per Mr. Hugh L. Thompson's request in his letter dated December 30, 1997, to New Mexico Environment Department Secretary Mark E. Weidler, I am submitting the third of the requested bi-monthly progress reports addressing the IMPEP Team's suggestions and recommendations.

Please note that for the suggestions and recommendations identified by the IMPEP Review Team requiring action by the State, those with responses reading "no further action required" indicate that they were addressed in the first or second bi-monthly progress report, and that either no additional action was required, or that there have been no changes to the material previously submitted.

Please call me at (505)827-1862 should you have any questions.

Sincerely,

William M. Floyd

William M. Floyd, Program Manager
Hazardous and Radioactive Materials Bureau

cc: Mark E. Weidler, Secretary, New Mexico Environment Department
Ed Kelley, Director, Water and Waste Management Division
Benito J. Garcia, Chief, Hazardous and Radioactive Materials Bureau

ACTIONS, DOCUMENTATION AND PROCEDURES ADOPTED BY NEW MEXICO RCP TO ADDRESS MRB CONCERNS

INTRODUCTION: Below is a summary list of suggestions and recommendations identified by the IMPEP Review Team as requiring action by the State:

1. The review team recommends that the nuclear pharmacy inspection frequency be modified from 2 years to 1 year. (Section 3.1)

Response: Nothing additional to report since last response.

2. The review team recommends that initial inspections of licensees be performed within 6 months of licensee's receipt of material and commencement of operations, consistent with IMC 2800. (Section 3.1)

Response: All radioactive material licenses issued since the IMPEP Review have been inspected, or will be inspected, within six months of issuance. (i.e.,

	Issued:	Inspected:	No material:
Phase One Molecular	04/97	09/97	
Avid Engineering	12/97	05/06/98	
City of Alamogordo	12/97	05/05/98	
Bizzell Power, Inc.	12/97	04/27/98	
Evans Engineering	1/98	04/01/98	
Wyland X-Ray Service	03/98		As of 02/98).
Terracon, Inc.	05/98		As of 05/28/98
W.W. Construction	04/98		As of 04/28/98
Trace, Incorporated	03/30/98		As of 04/15/98

3. The review team recommends that the tracking system be revised to allow initial inspections to be readily identified to staff and management. (Section 3.1)

Response: Nothing additional to report since last response.

4. The review team recommends that the State increase the number of reciprocity inspections to better evaluate the health and safety implications of out-of-state companies working in New Mexico. (Section 3.1)

Response: Since August 1997, a total of 28 reciprocal licensees have entered New Mexico. Of these, sixteen have been inspected on-site. The majority of the reciprocal licensees which were not inspected were due to insufficient notification time. Following is a listing of reciprocal licensees which have entered the State since the previous report submitted on April 1, 1998.

Name	Type	Date Entering NM	Inspected	If not, Reason
Vector Engineering	IR	05/98	05/12/98	
Tru-Tec Services, Inc.	DM	05/98		Insuf. Notification time.
Tru-Tag	WL	05/98		Insuf. time to send anyone from Santa Fe To inspect.

5. The review team recommends that the State maintain the RCP staffing level to at least the level which existed throughout the review period. (Section 3.2)

Response: As previously noted, the two Environmental Specialist positions vacated since the IMPEP Review were filled effective February 16, 1998.

6. The review team recommends that the State provide training personnel in areas of medical brachytherapy and irradiator technology. (Section 3.2)

Response: Radiation Licensing and Registration Section staff attended a one-day training session on XRF sponsored by Niton on April 20, 1998. Also RLRS staff attended a one-day training session on the use of density/moisture gauges on April 17, 1998. Five RLRS staff members attended the 30th annual National Conference on Radiation Control in Mesa, Arizona, May 16-20, 1998.

Larry Stephenson, Director of Environmental Compliance for ProTechnics, a Core Laboratories Company, will provide a week-long training session for Radiation Licensing and Registration Section staff the week of June 22 -26, 1998. A copy of the training outline is enclosed. A contract has been signed by the Department and ProTechnics to provide for this training.

7. The review team recommends that the State develop a formalized training program comparable to IMC 1246, "Formal Qualification Programs in the Nuclear Material Safety and Safeguard Program Area." (Section 3.2)

Response: A RLRS Training Policy Statement has been completed, as well as a Master Training Matrix. Qualification Journals for all RLRS staff have been completed.

8. The review team suggest that documentation of license reviewer's actions be maintained in license files. (Section 3.2).

Response: No further action since last response.

9. The review team recommends that the State inspectors attempt to observe licensee operations or demonstrations during all inspections. (Section 3.4).

Response: Nothing additional to report since last response.

10. The review team recommends that the State inspectors conduct independent measurements on all inspections. (Section 3.4).

Response: No further action since last response (i.e., independent measurements have been conducted at all licensees inspected since the last response).

11. The review team recommends that the State increase the rigor of reviewing technical health physics issues during inspections, and increase the breadth and scope of inspections. (Section 3.4).

Response: No further action since last response.

12. The review team suggests the State inspectors attempt to interview ancillary workers during inspections. (Section 3.4).

Response: When available, ancillary staff have been interviewed during all inspections conducted since the last response.

13. The review team recommends that the State inspectors attempt to conduct formal exit meetings with the senior licensee management on all inspections. (Section 3.4).

Response: No further action since last response.

14. The review team recommends that the State develop a formal process for reviewing licensee responses to deficiency letters and closing open deficiencies.

Response: Nothing additional to report since last response.

15. The review team suggests that the State develop a formal process for inspectors and license reviewers to document and transmit pertinent information to each other for follow-up. (Section 3.4).

Response: Nothing additional to report since last response.

16. The review team suggests that the State develop a process for ensuring that inspection files are complete, that all appropriate State documents are prepared and filed, and that licensee responses are received and filed. (Section 3.4).

Response: Nothing additional to report since last response.

17. The review team recommends that the State begin documenting all trips to licensee's or applicant's facilities when inspecting licensed activities, performing special inspections, or performing pre-licensing site visits during construction. (Section 3.4).

Response: Nothing additional to report since last response.

18. The review team recommends that the State management exercise more stringent supervisory review of inspection reports. (Section 3.4).

Response: Nothing additional to report since last response.

19. The review team suggests that the State complete its revision of the inspection report forms, ensuring that each set of forms covers all key areas for the type of licensee being inspected, and that RCP inspectors begin using the standardized form(s). (Section 3.4).

Response: Nothing additional to report since last response.

20. The review team recommends that the State make onsite, documented investigations of incidents, allegations, or misadministrations with potential health and safety effects (i.e., source disconnects, possible over exposures, lost sources, contamination, etc. (Section 3.5).

Response: All incidents have been investigated via on-site visits. Thorough documentation has been provided for all investigations via revised incident report forms.

21. The review team recommends that the State create an incident and allegation reporting form that would, at a minimum, identify the person taking the initial report, list the name and telephone number of the reporting party, provide the details of the incident or allegation as reported, record the State's conversation with the licensee or individual, describe corrective actions taken by the licensee, describe the investigation conducted by the State and the results, list citations or other regulatory actions, show the date the investigation was closed out and justification for closure, show date(s) incident was reported to the NRC or other agencies, and provide spaces for the signatures of the investigator and supervisor. A copy of the form should be maintained in the incident file and in the license file. (Section 3.5).

Response: Nothing additional to report since last response.

22. The review team recommends that the State establish a protocol for making independent investigations and evaluations of the licensee's actions. (Section 3.5).

Response: Nothing additional to report since last response.

23. The review team recommends that the State initiate procedures to ensure incidents are followed-up at the next inspection to verify that the licensee's corrective actions have been implemented. (Section 3.5).

Response: Nothing additional to report since last response.

24. The review team suggests that when evaluating incidents, the State cite appropriate items of deficiencies when applicable. (Section 3.5).

Response: Nothing additional to report since last response.

25. The review team recommends that the State: (a) set up a separate incident and allegation file system in the Santa Fe office, keeping all documents and records pertaining to an incident in one location, with the data cross-referenced to the license/inspection files there and in the Albuquerque office, and (b) establish a system to centrally log and track the progress of incidents and allegations. (Section 3.5).

Response: Nothing additional to report since last response.

26. The review team recommends that the State develop and implement written procedures for responding to events involving radioactive material and conduct training sessions until all staff are fully trained and qualified in emergency response. (Section 3.5).

Response: Nothing additional to report since last response.

27. The review team suggests that the State keep expanding the allegation procedures to include procedures for notifying the person making the allegation of the results of the investigation and including the allegation in the event reporting form, tracking system, and emergency response procedures (Section 3.5).

Response: Nothing additional to report since last response.

28. The review team recommends that the State expedite promulgation of the compatibility-related regulations now overdue and those which are due within the next 12 months. (Section 4.1.2).

Response: A meeting of the New Mexico Radiation Technical Advisory Council will be held on Friday , June 26, 1998 to consider the compatibility revisions to the New Mexico Radiation Protection Regulations. Following their consideration and their advice and consent, the amended regulations will be placed on the agenda of the next available meeting of the New Mexico Environmental Improvement Board for adoption (hopefully for the July meeting).

29. The review team suggests that a file be maintained with the cover letters and ensuring correspondence of all draft or final regulations sent to the NRC. (Section 4.1.2.).

Response: Nothing additional to report since last response.

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INDUSTRIAL RADIOGRAPHY FOR STATE REGULATORY PERSONNEL

I INTRODUCTION

II HISTORY OF INDUSTRIAL RADIOGRAPHY OPERATIONS

- A. INCIDENTS - CASE HISTORIES
- B. DEVELOPMENT OF RADIOGRAPHY EQUIPMENT

III SPECIFICATIONS FOR RADIOGRAPHY EQUIPMENT

1. CONTROL CABLES
2. GUIDE TUBES
3. EXPOSURE DEVICE

IV MANUFACTURER OF RADIOGRAPHY EQUIPMENT

- A. SOURCE
- B. EXPOSURE DEVICE
- C. SOURCE EXCHANGER

V RADIOACTIVE MATERIAL LICENSE REQUIREMENTS

- A. ISOTOPES
- B. QUANTITY LIMITATIONS
- C. LICENSED USES
- D. LICENSE CONDITIONS

VI OPERATING AND EMERGENCY PROCEDURES

- A. ORGANIZATION AND RESPONSIBILITIES
- B. FACILITY LAYOUTS
- C. RADIATION SAFETY PROGRAM
- D. EMERGENCY PROCEDURES

1. SOURCE DISCONNECT
2. CRUSHED GUIDE TUBE

3. CABLE RUN OFF
4. CRUSHED CONTROL HOUSING
5. DIRT FOULED DEVICE

E. TRAINING FOR RADIOGRAPHY PERSONNEL
F. OPERATING PROCEDURES
G. SOURCE EXCHANGE PROCEDURES
J. RECEIVING AND MONITORING SOURCES/EXPOSURE DEVICES
K. TRANSPORTATION OF RADIOGRAPHY DEVICES
L. SHIELDED ROOM OPERATIONS

VII STATE REGULATIONS FOR RADIOGRAPHY OPERATIONS

VIII D.O.T. REQUIREMENTS FOR TRANSPORTATION OF RADIOGRAPHY DEVICES

IX RADIATION INSTRUMENTATION FOR RADIOGRAPHY OPERATIONS

X REGULATORY INSPECTION OF RADIOGRAPHY OPERATIONS

A. PREPARATION FOR INSPECTION

1. LICENSE REVIEW
2. OPERATING AND EMERGENCY PROCEDURE REVIEW
3. REGULATION REVIEW
4. PREVIOUS VIOLATIONS NOTED

B. MANAGEMENT ENTRANCE INTERVIEW

C. INSPECTION TOUR

D. CONFIRMATORY MEASUREMENTS

E. FOLLOW UP ON ITEMS OF NONCOMPLIANCE

F. FOLLOW UP ON REPORTS SUBMITTED TO THE AGENCY

G. ORGANIZATION

H. LICENSEE AUDITS

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J. RADIATION PROTECTION PROGRAM

K. RADIATION SAFETY EQUIPMENT AND INSTRUMENTATION

L. RECEIPT, TRANSFER AND DISPOSAL

M. TRANSPORTATION PROGRAM

N. POSTING OF NOTICES/PROCEDURES/LICENSE, ETC.

O. QUALITY ASSURANCE PROGRAM

P. EMERGENCY PLANS

Q. MANAGEMENT EXIT INTERVIEW

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POOL IRRADIATORS
FOR STATE REGULATORY PERSONNEL

I INTRODUCTION

II HISTORY OF IRRADIATOR OPERATIONS

- A. INCIDENTS - CASE HISTORIES
- B. DEVELOPMENT OF IRRADIATOR EQUIPMENT

III SPECIFICATIONS FOR IRRADIATOR EQUIPMENT

IV MANUFACTURER OF IRRADIATOR SOURCES

V RADIOACTIVE MATERIAL LICENSE REQUIREMENTS

- A. ISOTOPES
- B. QUANTITY LIMITATIONS
- C. LICENSED USES
- D. LICENSE CONDITIONS
- E. SOURCE INSTALLATION
  - 1. BY MANUFACTURER
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VI OPERATING AND EMERGENCY PROCEDURES

- A. ORGANIZATION AND RESPONSIBILITIES
- B. FACILITY LAYOUTS
- C. RADIATION SAFETY PROGRAM
- D. EMERGENCY PROCEDURES
- E. TRAINING FOR PERSONNEL
- F. OPERATING PROCEDURES
- G. CELL ENTRY PROCEDURES
- G. SOURCE INSTALLATION PROCEDURES
  - 1. INSTALLATION SURVEY
  - 2. SERIAL NUMBER VERIFICATION

3. SOURCE DECAY ADJUSTMENTS (RADIATION PATTERN UNIFORMITY)
4. LEAK TESTING OF SOURCES BEFORE INSTALLATION

J. RECEIVING AND MONITORING SOURCES
K. TRANSPORTATION REQUIREMENTS
L. SHIELDED ROOM OPERATIONS
M. LEAK TESTING OF SOURCES
N. WATER SAMPLING
O. TESTING OF SAFETY INTERLOCKS/CELL MONITORS/WATER SYSTEM MONITORS
P. CELL VENTILATION

VII STATE REGULATIONS FOR IRRADIATOR OPERATIONS

VIII D.O.T. REQUIREMENTS FOR TRANSPORTATION OF IRRADIATOR SOURCES

IX RADIATION INSTRUMENTATION FOR IRRADIATOR OPERATIONS

X REGULATORY INSPECTION OF IRRADIATOR OPERATIONS

A. PREPARATION FOR INSPECTION

1. LICENSE REVIEW
2. OPERATING AND EMERGENCY PROCEDURE REVIEW
3. REGULATION REVIEW.
4. PREVIOUS VIOLATIONS NOTED

B. MANAGEMENT ENTRANCE INTERVIEW

C. INSPECTION TOUR

D. CONFIRMATORY MEASUREMENTS

E. FOLLOW UP ON ITEMS OF NONCOMPLIANCE

F. FOLLOW UP ON REPORTS SUBMITTED TO THE AGENCY

G. ORGANIZATION

H. LICENSEE AUDITS

I. TRAINING PROGRAMS

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K. RADIATION SAFETY EQUIPMENT AND INSTRUMENTATION

L. RECEIPT, TRANSFER AND DISPOSAL

M. TRANSPORTATION PROGRAM

N. POSTING OF NOTICES/PROCEDURES/LICENSE, ETC.

O. QUALITY ASSURANCE PROGRAM

P. EMERGENCY PLANS

Q. MANAGEMENT EXIT INTERVIEW

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NUCLEAR MEDICINE FOR STATE REGULATORY PERSONNEL

I INTRODUCTION

II DEVELOPMENT OF NUCLEAR MEDICINE

III RADIOACTIVE MATERIAL LICENSE REQUIREMENTS

- A. ISOTOPES
- B. QUANTITY LIMITATIONS
- C. FORMS OF ISOTOPES (GASES, LIQUIDS, SEALED SOURCES)
- D. LICENSED USES
- E. LICENSE CONDITIONS
- F. NUCLEAR MEDICINE PREPARATION
  1. BY LICENSEE
  2. BY AN OUTSIDE NUCLEAR PHARMACY
  3. GENERATOR OPERATIONS

IV OPERATING AND EMERGENCY PROCEDURES

- A. ORGANIZATION AND RESPONSIBILITIES
- B. FACILITY LAYOUTS
- C. RADIATION SAFETY PROGRAM
- D. EMERGENCY PROCEDURES
- E. TRAINING FOR PERSONNEL
- F. OPERATING PROCEDURES
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  4. RADIATION SAFETY FOR BRACHYTHERAPY SOURCES

G. RECEIPT, TRANSFER AND DISPOSAL REQUIREMENTS
H. TRANSPORTATION REQUIREMENTS
I. LEAK TESTING OF SOURCES
M. RADIATION INSTRUMENT SURVEYS

1. CONTAMINATION
2. WIPE SURVEYS
3. INSTRUMENT SURVEYS

N. QUALITY ASSURANCE OF NUCLEAR MEDICINE INSTRUMENTS

1. GAMMA CAMERAS
2. DOSE CALIBRATORS
3. THYROID INSTRUMENT
4. SURVEY INSTRUMENTS

O. BIOASSAYS

IV STATE REGULATIONS FOR NUCLEAR MEDICINE OPERATIONS

V RADIATION INSTRUMENTATION FOR NUCLEAR MEDICINE OPERATIONS

VI REGULATORY INSPECTION OF NUCLEAR MEDICINE OPERATIONS

A. PREPARATION FOR INSPECTION

1. LICENSE REVIEW
2. OPERATING AND EMERGENCY PROCEDURE REVIEW
3. REGULATION REVIEW
4. PREVIOUS VIOLATIONS NOTED

B. MANAGEMENT ENTRANCE INTERVIEW

C. INSPECTION TOUR

D. CONFIRMATORY MEASUREMENTS

E. FOLLOW UP ON ITEMS OF NONCOMPLIANCE

F. FOLLOW UP ON REPORTS SUBMITTED TO THE AGENCY

G. ORGANIZATION

H. LICENSEE AUDITS

I. TRAINING PROGRAMS

J. RADIATION PROTECTION PROGRAM

K. RADIATION SAFETY EQUIPMENT AND INSTRUMENTATION

L. RECEIPT, TRANSFER AND DISPOSAL

M. TRANSPORTATION PROGRAM

N. POSTING OF NOTICES/PROCEDURES/LICENSE, ETC.

O. QUALITY ASSURANCE PROGRAM

P. EMERGENCY PLANS

Q. MANAGEMENT EXIT INTERVIEW

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TRANSPORTATION REGULATIONS FOR STATE REGULATORY PERSONNEL

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10 CFR PARTS 19 & 20
FOR STATE REGULATORY PERSONNEL

I INTRODUCTION

II PART 19

- A. PURPOSE AND SCOPE
- B. DEFINITIONS
- C. INTERPRETATIONS
- D. POSTING OF NOTICES TO WORKERS
- E. INSTRUCTIONS TO WORKERS
- F. NOTIFICATIONS AND REPORTS TO INDIVIDUALS
- G. PRESENCE OF REPRESENTATIVES OF LICENSEE AND WORKERS DURING INSPECTIONS
- H. CONSULTATION WITH WORKERS DURING INSPECTIONS
- I. REQUESTS BY WORKERS FOR INSPECTIONS
- J. INSPECTIONS NOT WARRANTED
- K. EMPLOYEE PROTECTION
- L. VIOLATIONS

III. PART 20

- A. PURPOSE AND SCOPE
- B. DEFINITIONS
- C. RADIATION PROTECTION PROGRAMS
- D. OCCUPATIONS DOSE LIMITS
- E. RADIATION DOSE LIMITS FOR INDIVIDUAL MEMBERS OF THE PUBLIC
- F. SURVEYS AND MONITORING FROM EXTERNAL SOURCES IN RESTRICTED AREAS
- G. CONTROL OF EXPOSURE FROM EXTERNAL SOURCES IN RESTRICTED AREAS
- H. RESPIRATORY PROTECTION AND CONTROLS TO RESTRICT INTERNAL EXPOSURE IN RESTRICTED AREAS
- I. STORAGE AND CONTROL OF LICENSED MATERIAL
- J. PRECAUTIONARY PROCEDURES
- K. WASTE DISPOSAL

L. RECORDS
M. REPORTS
N. EXEMPTIONS AND ADDITIONAL REQUIREMENTS
O. ENFORCEMENT
P. APPENDICES

IV. REGULATORY GUIDES

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August 18, 1998

Richard L. Bangart, Director
Office of State Programs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Bangart:

Thank you for your letter of August 6, 1998, which documents the results of the Agreement State follow-up review held in Santa Fe July 7-10, 1998.

We were pleased to learn that the State has responded to and resolved 28 of the 29 recommendations and suggestions from the 1997 review. The only remaining open recommendation, the promulgation of regulations required for compatibility, is in the process of resolution. The follow-up review team's recommendation to the Management Review Board (MRB) that for each of the five common indicators and the one non-common indicator reviewed, New Mexico's performance be found satisfactory and that the program as a whole be considered adequate to protect public health and safety and compatible with NRC's regulatory program is most encouraging to myself and staff. Depending on the scheduling of the MRB, I and Bill Floyd, of my staff, will plan on appearing before the MRB to discuss the review team's findings.

Once again, I appreciate the courtesy and assistance offered by the IMPEP review team and thank all of you for the advise and recommendations given to improve the New Mexico Radiation Control Program. We look forward to working cooperatively with the NRC in the future.

Sincerely,

Ed Kelley, Ph.D., Director
Water and Waste Management Division

98 AUG 24 AM 10:34
OSP

ATTACHMENT 1