DATED: FEBRUARY 12, 1997 SIGNED BY: HUGH L. THOMPSON

Ms. Deb Thomas, Director
Department of Regulation and Licensure
Nebraska Health and Human Services System
301 Centennial Mall South
P. O. Box 95007
Lincoln, NE 68509-5007

Dear Ms. Thomas:

On January 22, 1997, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Nebraska Agreement State Program. The MRB considered and concurred with the review team's recommendation that the Nebraska program be found 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 Nebraska program at the time of the review, that included unsatisfactory in one performance indicator, the team recommended a period of probation for a duration to be established after consultation with Nebraska radiation control program management.

In consideration of the corrective actions already taken and action plans identified by the State at the MRB meeting, the review team revised their recommendation from probation to a follow-up IMPEP review, to be conducted within one to one and one-half years from the date of the last IMPEP review, but not later than September 1997. The team also recommended that the State keep NRC apprised of the status of corrective actions and plans. Due to the State's current staffing level (all vacancies staffed), the MRB revised the review team's Unsatisfactory recommendation for Section 3.2 Technical Staffing and Training, to Satisfactory with Recommendations for Improvement. The MRB considered and concurred with the review team's revised recommendation for a follow-up review no late than September 1997, based on the State's performance, unless program concerns develop that require an earlier evaluation.

NRC recognized the efforts already taken and planned by the State to address the 15 recommendations made by the review team to improve the performance of the Nebraska radiation control program. During the MRB meeting, the MRB discussed with the State representatives the need to ensure that sufficient staffing is maintained to reduce the backlogs in licensing, inspection and enforcement actions, or any other situation which increases the risk to public health and safety. Discussions also covered when the State expected to complete most of the corrective actions identified in their action plans presented at the meeting. The State representatives responded that they planned to have all corrective actions completed by July 1997.

Section 5 page 23 of the enclosed final report presents the IMPEP team's recommendations. We request that you provide: (1) a copy of your actual Corrective Action Plan (Step I and II), and (2) updates of the status of corrective actions taken in response to the review team's recommendations at two month intervals, beginning with receipt of this letter.

I appreciate the courtesy and cooperation extended to the IMPEP team during the review.

Sincerely, ***/RA/***

Hugh L. Thompson, Jr.
Acting Executive Director
for Operations

Enclosure:
As stated

Section 5 page 23 of the enclosed final report presents the IMPEP team's recommendations. We request that you provide: (1) a copy of your actual Corrective Action Plan (Step I and II), and (2) updates of the status of corrective actions taken in response to the review team's recommendations at two month intervals, beginning with receipt of this letter.

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Hugh L. Thompson, Jr.
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Enclosure:
As stated

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
REVIEW OF NEBRASKA AGREEMENT STATE PROGRAM

JULY 15-19, 1996

FINAL REPORT

U. S. Nuclear Regulatory Commission

02/07/97

1.0 **INTRODUCTION**

This report presents the results of the review of the Nebraska radiation control program. The review was conducted during the period July 15-19, 1996, by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Colorado. Team members are identified in Appendix A. The review was conducted in accordance with the "Interim Implementation of the Integrated Materials Performance Evaluation Program Pending Final Commission Approval of the Statement of Principles and Policy for the Agreement State Program and the Policy Statement on Adequacy and Compatibility of Agreement State Programs," published in the Federal Register on October 25, 1995, and the September 12, 1995, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period June 25, 1994-July 12, 1996, were discussed with Nebraska management on July 19, 1996.

A draft of this report was issued to Nebraska for factual comment on October 16, 1996. The State of Nebraska responded in a letter dated November 1, 1996 (attached), that covered all but one issue. The State responded to the one outstanding issue regarding the applicability of the State's Part 61 equivalent rule to low-level radioactive waste facilities that process or store waste, as well as disposal sites, in a letter dated December 13, 1996 (attached). The State's response that the "Department intends to amend the regulation and anticipates this can be done by June 30, 1997," resolves the issue. The State's comments were incorporated into the proposed final report. The Management Review Board (MRB) met on January 22, 1997, to consider the proposed final report. The MRB concurred in the team's overall recommendation and found the Nebraska 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 Nebraska program that included unsatisfactory in one performance indicator at the time of the review, the review team recommended a period of probation for a duration to be established after consultation with the Nebraska radiation control program management. In consideration of the corrective actions already taken, and action plans presented by the State at the MRB meeting, the review team revised their recommendation for probation to a follow-up review of the State's radiation control program, to be conducted within one to one and one-half years from the date of the last IMPEP review, but not later than September 1997. The team also recommended that the State keep NRC apprised of the status of corrective actions and plans. The MRB concurred in the team's revised recommendation and, in consideration of the State's current staffing level and corrective actions and plans, revised the Unsatisfactory for Section 3.2, Technical Staffing and Training, to Satisfactory with Recommendations.

The radiation control program, formerly managed by the Nebraska Department of Health (NDOH), was reorganized January 2, 1997, by combining five departments into three. The radiation control program is now located in a new cabinet level department of the Nebraska Health and Human Services System (NHHS). The Director, NHHS, is appointed by, and reports directly to, the Governor. Within NHHS, the Nebraska radiation control program is administered by the Department of Regulation and Licensure, under the Public Health Assessment (PHA) division. The Department of Regulation and Licensure and the Public Health Assessment (PHA) division organization charts are included as Appendix B. During the review period the Nebraska program regulated 157 specific licenses, which includes four large irradiators, manufacturers, broad academic, broad medical, radiopharmacy, radiographers, and the program is in the process of conducting a licensing review of a low-level radioactive waste disposal site. The low-level radioactive waste (LLRW) disposal regulatory program is jointly administered and managed by NHHS and the Nebraska Department of Environmental Quality (NDEQ) through a Memorandum of

Understanding. In addition to its radioactive materials and low-level radioactive waste disposal programs, NHHS is responsible for the control of machine produced radiation and radon, and emergency response planning for two nuclear power plants. The review focused on the materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Nebraska.

In preparation for the review, a questionnaire addressing the common and non-common indicators was sent to the State on May 17, 1996. Nebraska provided its response to the questionnaire on June 17, 1996. A copy of that response is included as Appendix C to this report.

The review team's general approach for conduct of this review consisted of: (1) examination of Nebraska's response to the questionnaire, (2) review of applicable Nebraska statutes and regulations, (3) analysis of quantitative information from the radiation control program licensing and inspection database, (4) technical review of selected files, (5) field accompaniments of five Nebraska inspectors, 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 indicator and made a preliminary assessment of the radiation control program's performance. As noted above, that preliminary assessment was discussed with program management before the team's departure.

2.0 **STATUS OF PREVIOUS REVIEW**

The previous routine review concluded on June 23, 1994, and there were no recommendations made following the previous review of the radiation control program. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-common indicators, and Section 5 summarizes the review team's findings and recommendations.

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 Staffing and Training; (3) Technical Quality of Licensing Actions; (4) Technical Quality of Inspections; and (5) Response to Incidents and Allegations.

3.1 Status of Materials Inspection Program

The review team focused on four factors in reviewing this indicator: inspection frequency, overdue inspections, initial inspection of new licenses, and timely dispatch of inspection findings to licensees.

Review of the State's inspection priorities showed that the State's inspection frequencies for the various types or groups of licenses are with few exceptions, at least as frequent as similar license types or groups listed in the frequency schedule in the NRC Inspection Manual Chapter (IMC) 2800. The State, in their response to the questionnaire, identified three types of licenses that were inspected at a frequency less than IMC 2800, as a result of not having yet incorporated the April 1995 revisions to IMC 2800 into their Inspection Procedures Manual. Those categories for which NRC revisions to IMC 2800 were more conservative than the Nebraska frequencies are: (1) High-Dose Rate Remote Afterloaders (HDRs) were inspected on a three year basis in Nebraska vs. NRC's change to a one year frequency, (2) Mobile Nuclear Medicine Services were inspected on a three year frequency vs. NRC's change to a two year frequency, and (3) Instrument Calibration Services Only - Other and

Other Services were grouped together in Nebraska and inspected on a three or five year frequency vs. NRC's one-seven year frequency based on the type of service provided. Subsequently, the team found that the State does not have a service license requiring inspections at one or two year intervals, but they do have a service license for which IMC 2800 indicates a three year inspection frequency and the State was conducting inspections at a three year interval. Although the revised inspection frequencies had not been incorporated into the Inspection Procedures Manual, the State indicated that they had completed incorporation of the new priorities into their inspection tracking system and, as a result, the State indicated that they planned to review all licenses and assign the proper priority and inspection frequency and inspect accordingly, but inspection schedules had not been completed. In discussions with the new program manager, the team found that the State intends to revise their Inspection Manual to reflect the April 1995 revisions to IMC 2800 by January 1997. When these inspection priority findings were raised with the Nebraska staff, the staff indicated that the loss of three key personnel had prevented them from updating procedures.

In their response to the questionnaire, Nebraska indicated that as of July 12, 1996, only nine licensees identified as core inspections in IMC 2800 were overdue by more than 25 percent of the NRC frequency. The State also indicated they planned to complete these overdue inspections by January 1997. It should be noted, that the staffing shortages created a considerable backlog of inspections and, in response, the State hired a contractor to conduct inspections, commencing on January 15, 1996, and ending no later than June 30, 1996. The contractor performed 27 inspections, of which 14 were overdue, during this period which helped to reduce the backlog of overdue inspections. Although the State should be commended for this effort, the team noted that communication of the results of the inspections, (i.e. inspection report results, recommendations, noncompliance, etc.) have been provided to only 5 of the 27 licensees inspected. In discussions, the program manager stated that they retained a former staff member as a consultant to review the results of the contractor inspections, but they were unsuccessful in their efforts to have the reviews completed in a timely fashion.

The team reviewed the State's experience with overdue inspections during the entire review period and found, based on 20 license files reviewed, 8 out of 12 core inspections were conducted as overdue inspections exceeding the 25 percent window allowed in IMC 2800. Four of the 8 overdue core inspections with a one-year inspection frequency were between 10-24 months overdue (averaging 15 months overdue), and four of the 8 overdue core inspections with a three-year inspection frequency were between 15-21 months overdue (averaging 17.3 months overdue). Non-core inspections were conducted as resources allowed.

With respect to initial inspections of new licensees, the team reviewed the inspections due by date in the numeric tracking system and the license files. Review of the tracking system identified 11 licenses, that required initial inspections. Of the 11 inspections due, identified from the tracking system, 2 had been identified as overdue in the State's questionnaire. Two of the 11 initial inspections due had been completed during the IMPEP review accompaniment process on July 16, 1996, which leaves 9 inspections due. Subsequent to the review, the State informed the team that 2 of the inspections due licenses are issued to nuclear power plants authorizing the use of radioactive material at temporary job sites in the event of an emergency situation, one is an out-of-state licensee from Wisconsin authorizing non-AEA material, and one other is an out-of-state service licensee for which no activity has occurred and is currently in a deferred status, which reduces the number of inspections due to 5.

Of the 20 files reviewed by the team, 4 were initial inspections, and 2 of the 4 initial inspections were not inspected within the stated frequencies identified in IMC 2800. The 2 overdue initial inspections were performed 16 and 13 months after issuance of the license. Subsequent to the review, the State informed the team that in response to suggestions made by the team, the State has implemented a condition for new licenses that requires the licensee to notify the State of receipt of materials and the beginning of licensed activities in addition to the telephone contacts now used by the program.

The timeliness of the issuance of inspection findings was also evaluated during the inspection file review. From the 20 files examined both in detail for quality of the inspection program and for issuance of inspection findings, 14 (inspections performed in 1994 and 1995) had inspection correspondence sent to the licensee within 30 days after completion of the inspection. In the six remaining files (inspections performed in 1996 by the contractor), the inspection findings were in draft enforcement letters which had not been issued to the licensee. The six draft enforcement letters had been in the license file from 45 to 142 days. As previously indicated, the inspections findings of only 5 of the 27 inspections performed in 1996 by the contractor, had been provided to the licensee after review by the State. Management was aware of the delays in getting these inspection reports issued. Delays in issuing inspection reports impair the effectiveness of getting prompt corrective action by the licensee to any violations. Late reports make it difficult for the program to require a prompt response from the licensee. Finally, late reports open the program to criticism by licensees. The review team recommended that State management take immediate action to assure that the balance of the contractor completed inspection field notes and draft enforcement letters (22) are reviewed and issued to the appropriate licensees.

On examination of the major cause for the lack of timeliness in performing inspections at the stated frequency and the timely issuance of inspection findings, the IMPEP team noted the program lost three senior staff in the materials program and underwent two reorganizations during the review period. The team concluded that the failure to effectively manage the reduced level of program resources and performance and the lack of current, written, program procedures, are the primary root causes of the deficiencies found in the program.

A review of the results of previous program reviews of the Nebraska Radiation Control Program identified that similar problems were found in 1990 and 1992 that resulted in a withholding of findings of adequacy to protect public health and safety and compatibility for both reviews. During the 1992 review, significant problems were identified in the area of Status of Inspections and Staffing and Training. The 1992 review indicated that there had been no improvement in problem areas identified during the 1990 review. During the 1990 review, significant problems were identified in the area of Status of the Inspection Program, Staffing and Training, Status and Compatibility of Regulations, Enforcement Procedures, and Management. The 1990 review indicated a continuation of the same problems found during two previous reviews in 1988 and 1986. The 1994 review resulted in a finding of adequate and compatible based on the State filling four vacant positions that had remained open for over a year despite active recruiting, reduction of the inspection backlog, and expected continued reduction due to increased availability of staff. In 1994, the State also indicated that efforts were underway to develop and implement revised procedures. The team found that the efforts begun in 1994 to maintain adequate staffing and control inspection backlogs were unsuccessful, and the efforts to implement new procedures were not completed.

The State reported in its response to the questionnaire that 31 licensees filed 163 requests for reciprocity during the review period; 20 of the 31 licensees were Priority 1, 2, or 3 (7 industrial radiography, 7 well logging, 1 mobile nuclear medicine service and 5 other service licensees). The State conducted 2 inspections of reciprocity licensees (industrial radiography) during the review period. In its response to the questionnaire, the State reported that the program staff accompanied by an IMPEP team member performed one field inspection on a non-reciprocity industrial radiography licensee on June 26, 1996. The review team recommends that the State follow the inspection frequency for conducting inspections of reciprocity licensees contained in IMC 1220, "Processing of NRC Form 241, Report of Proposed Activities in Non-Agreement States, and Inspection of Agreement State Licensees Operating Under 10 CFR Part 150.20."

In addition to the recommendations stated above regarding the contractor performed inspections, the review team recommended that the Nebraska Radioactive Materials Program: (1) establish an action plan or procedure to assure inspections are completed at the required frequencies stated in the Nebraska Inspection Manual which is equal to the NRC's IMC 2800 and conduct reciprocity licensee inspections at the required frequencies stated in IMC 1220; (2) establish an action plan or procedure for coordinating deviations from the schedule between staff and management based on the risk of license operations, past performance and need to temporarily defer the inspections to address more urgent or critical priorities; (3) organize a "get well" plan for rescheduling missed or deferred inspections, that takes into account unplanned loss of experienced staff; and (4) establish a plan or methodology to assure initial inspections are performed within 6 months of receipt of licensed material, 6 months of beginning licensed activities or within 1 year of license issuance, whichever comes first, in accordance with the Nebraska Inspection Manual and NRC's IMC 2800.

Based on the IMPEP evaluation criteria, the review team recommends that Nebraska's performance with respect to the indicator, Status of Materials Inspection Program, be found Satisfactory with Recommendations for Improvement.

3.2 Technical Staffing and Training

In reviewing this indicator, the review team considered the radioactive materials program and the NHHS low-level radioactive waste program staffing levels, the technical qualifications of the staff, staff training, staff turnover, prompt management attention and review to staffing problems, and development of corrective action plans, when necessary. To evaluate these issues, the review team examined the State’s questionnaire responses regarding this indicator, interviewed program management and staff, and considered the identified backlogs in licensing and compliance actions.

The NHHS has primary responsibility for regulation and control of radiation in Nebraska. Responsibility for regulating a proposed LLRW disposal site is shared by both NHHS and NDEQ. Since the last program review in 1994, there have been three reorganizations in the NHHS, the last of which was completed after the IMPEP review, in January 1997. Under the reorganization, the radiation control program continues to exist as two units (RAM and LLRW) in the Division of Public Health Assessment, under NHHS. Emergency response activities are the responsibility of the NHHS LLRW program manager. The RAM and LLRW program managers report to a section administrator. Additionally, technical staffing and training for the organizational unit located in the Department of Environmental Quality, Low-Level Radioactive Waste Disposal Program, consisting of both NDEQ and NHHS LLRW staff, is addressed in Section

4.2.3 of this report. Organization charts for NHHS and PHA can be found in Appendix B.

In the second reorganization, implemented July 1, 1995, the division director position was lost without naming a permanent RAM program manager. NRC received notification through letters from the State that an experienced RAM staff member had been designated program manager for Radioactive Materials on April 24, 1995, and again in a letter dated June 13, 1995, but this person left the program on June 23, 1995. In a letter dated May 15, 1995, the LLRW program manager, was given the additional responsibility for all radiological emergency response activities. A July 20, 1995 internal memorandum that was provided to the IMPEP team during the review, designates the LLRW program manager as Acting RAM program manager, but based on statements made by program staff to the team, it was not clear to the RAM staff that the designated duties went beyond signature authority for licenses. In a March 25, 1996 letter, NRC was notified that the Section Administrator for Environmental Health Protection would be handling matters related to radioactive materials. A permanent RAM program manager was not named until May 1996, a delay of nearly one year.

The current radioactive materials program technical staff consists of a program manager and three inspector/license reviewers while the LLRW program technical staff consists of a program manager and two professional positions. The two staff members of the LLRW program are cross-trained to provide technical support to the RAM program on a short-term basis, as needed. Additionally, the RAM and LLRW programs supplemented staff effort during the review period with contractors. The review team found that the current staffing level, with contractor support, and establishment of effective management controls, is adequate to administer the regulatory program.

With respect to RAM contract support, the State did not include a provision specifying personnel qualifications in their Statement of Work. The RAM program contractor, in bid documents, specified the use of individuals who possessed the education and experience to meet the requirements of this indicator, however, there was no specific provision concerning personnel qualifications included in the contract. This was noted by the program manager as a corrective action item for future contracts. The team concluded that the contractor (based on discussions with the RAM program manager), has adequate educational qualifications, but recommends that the qualifications of contractor personnel be tied to the contract as identified by the program manager or as accomplished by the Nebraska LLRW program. The program manager further stated that the contractor is an experienced consultant in the health physics area and personnel possessed appropriate technical qualifications.

The team reviewed staff turn-over and qualifications, and found that three experienced members of the RAM staff left during the review period, all at approximately the same time as the second reorganization. The review team found that although it appears that management was responsive in filling two of the vacant positions within a short period of time with cross-trained staff from the X-ray and LLRW programs (with adequate educational background and experience), management was unresponsive to the critical need to staff the vacant Radioactive Materials program manager position. The program manager position (which provides continuity, direction and support to the radioactive materials program staff) was not permanently filled for almost a year, and was one of the root causes of the difficulties experienced in the program. The team observed that these difficulties, identified below, accelerated at the time of the second reorganization and the nearly concurrent loss of three experienced staff members of the RAM program. Difficulties encountered during the review period include the following: (1) a backlog of 8 core inspections, (2) 22 inspections pending supervisory review and notification of the findings

to the licensee, of which one contained health and safety issues, (3) inspection reports were incomplete, (4) a backlog of 101 licensing actions of which 73 could have health and safety related issues; included in the backlog of 101 licensing actions were:

New RSO - 9	Add authorized user -9
Add or new location of use - 10	Terminate - 5
Renewal - 28	Delete location of use - 3
Short Form Renewal - 9	Add new use - 2
Add RAM - 7	Other - 2

(5) no incident reporting to NRC since June 1995, (6) incomplete documentation of incident response and response to allegations, (7) regulations required for compatibility not adopted in timely fashion, and (8) no "get-well" plan.

All of these factors considered collectively led the team to find that the performance with respect to the criteria for this indicator was inadequate. Details of these problems are discussed elsewhere in this report. The team found that the primary root causes for the deficiencies found in the program are (1) the failure of NHHS management to effectively address the reduced level of program performance, and (2) lack of current, written, program procedures or failure of staff to follow those procedures.

The Radioactive Materials program manager and all three full time staff perform duties in licensing, inspection, and event response. Although the staff did try to achieve a balance between the licensing and inspection functions, the significant backlog found in the area of inspections and licensing and other deficiencies found in the program demonstrate that the effort was not adequate to maintain the program. The team found it difficult to evaluate the training of the personnel involved with the materials control program, because there was no written program for staff qualification. According to the information provided in the questionnaire, all newly hired health physicists are required to attend the NRC core training courses outlined in the now suspended May 28, 1992, Policy Statement (57 FR 224950), as well as the five-week health physics course. However, there was no written documentation that stated this requirement had been met. The team found no program records to show that existing materials program staff members have taken the courses. The only records found were those maintained by individual staff members. Subsequent to the review, the team was informed that database records for a majority of the training received by program staff was available, but were unknown to the new program manager.

The radioactive materials program staff also described in-house and on-the-job training processes in their response and during interviews. Briefly, new staff are assigned to review State regulations and procedures and to accompany senior license reviewers/inspectors, then are assigned increasingly complex licensing duties under the direction of senior staff and accompany experienced inspectors during increasingly complicated inspections. New staff are assigned independent inspections after demonstrating competence. The criteria for determining the progress of new staff have not been established. The team observed that the lack of criteria and the vacant radiation program manager position for almost one year resulted in an inspector (hired in July 1995) not yet considered trained to conduct even low priority inspections after one year on the job. The team recommends that a written program for staff qualification, including retaining training records, be developed.

The team recommends that the State develop comprehensive administrative procedures, sufficient to guide the day-to-day operation of the program in the event of another loss of senior staff. The procedures should include a formal process for bringing to the attention of upper management the increase of significant backlogs of licensing, inspection, or enforcement actions, or any

other situation which increases the risk to public health and safety. Licensing procedures should include prioritization of licensing actions based upon identified factors, including health and safety significance for new and previously received applications. The team also noted that there was a legislative mandate to further reorganize by combining NDOH and four other Departments, to be completed by the end of calendar year 1996. The team was informed that the fourth reorganization took place January 1997, and the NDOH is now the Nebraska Health and Human Services System (NHHS). The team recommends that NRC monitor the Nebraska program with increased attention to the effects of the further reorganization.

As identified in Section 3.1 above, the team found that the problems encountered during the period represent continuing trends of deficiencies found in previous reviews of the Nebraska program. The exception was the 1994 review, wherein the previously identified staffing shortages were eliminated when the State filled four long vacant positions. But the team found that the State was unable to maintain adequate staffing beyond one year. The team also concluded that the efforts begun in 1994, to maintain adequate staffing, reduce the inspection backlog, and implement revised procedures were unsuccessful. Collectively considering the historical weaknesses of the program, the consistent significant staffing problems, the consequences of the loss of three key staff members, other deficiencies found throughout the program and lack of program management effectiveness to address these weaknesses, the review team concludes that the State's program relative to the criteria for this indicator was inadequate.

Based on the IMPEP evaluation criteria, the review team recommended at the time of the review, that Nebraska's performance with respect to the indicator, Technical Staffing and Training, be found Unsatisfactory. Subsequent to the review, at the January 22, 1997 MRB meeting to review the Nebraska IMPEP report, the MRB, in consideration of the corrective actions already taken and action plans identified by the State, revised the teams recommendation, and changed the recommendation from Unsatisfactory to Satisfactory with Recommendations for Improvement.

3.3 Technical Quality of Licensing Actions

The review team examined casework and interviewed the reviewers for 12 licenses and 28 licensing actions completed during the review period covering June 25, 1994-July 12, 1996. The review team was unable to review or evaluate statistical information related to any backlog of cases prior to July 1995, due to the fact that the licensing program records for that time were contained in a handwritten logbook that did not easily allow for statistical review of pending actions. The team noted that the new RAM program manager has implemented a computerized tracking system, beginning with July 1995, to allow tracking of reviews, letters, replies, and license issue date. This tracking system is a great improvement over the handwritten sheets kept in the logbook and updated by individual reviewers prior to July 1995, and will allow staff to keep better track of the licensing backlog. Licensing actions were reviewed for completeness, consistency, proper isotopes and quantities used, qualifications of authorized users, adequate facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Casework was reviewed for timeliness, adherence to good health physics practices, reference to appropriate regulations, documentation of safety evaluation reports, product certification or other supporting documents, consideration of safety evaluation reports, product certification or other supporting documents, consideration of enforcement history on renewals, pre-licensing visits, peer or supervisory review, and proper signature authorities. Licenses were reviewed for accuracy, appropriateness of the license and its conditions and tie-down conditions, and overall

technical quality. The files were checked for retention of necessary documents and supporting data.

The cases were selected to provide a representative sample of licensing actions which had been completed in the review period and to include work by all reviewers. The cross-section sampling included 12 licenses of the following types: medical/academic broad scope, medical-institution and medical-mobile, industrial radiography, research and development, and portable gauges. Licensing actions included three new licenses and 25 amendments. A list of these licenses with case-specific comments is included in Appendix D.

The review team found that the licensing actions completed were thorough, complete, consistent, and of acceptable quality with health and safety issues properly addressed. Special license tie-down conditions were stated clearly, backed by information contained in the file, and were inspectable. The team noted a few deviations in the files of minor significance such as the use of small yellow post-it pad notes to attach pertinent information rather than a permanent form of documentation i.e., memorandum. All recent licensing actions included a peer review which was recorded on a License Action Review Record in the license file. No potentially significant health and safety issues were identified with completed licensing actions.

In response to the questionnaire, and discussions with the program manager, the State indicated that three staff perform both license reviews and inspections, and that Nebraska has approximately 157 specific licenses. Due to problems encountered by the team in trying to review the handwritten licensing logbook, we were unable to review or evaluate case backlog prior to July 1995. In the period from July - December 1995, 38 licensing actions were completed. From January - June 21, 1996, 48 licensing actions were completed. Subsequent to the review, the State informed the team that they had completed 48 licensing actions from July - December 1995, and 70 licensing actions January 1 - June 21, 1996. During the review, the team noted that the new radioactive materials program manager, appointed in May 1996, has implemented a computer listing of licensing actions, beginning with July 1995, to allow tracking of reviews, letters, replies, and license issue date. This tracking system is a great improvement over the handwritten sheets kept by individual reviewers, prior to July 1995, and will allow staff to keep better track of the licensing backlog.

In discussions with staff, priorities of licensing actions were stated to be based upon health and safety issues, and applicants need. The team noted, that the disruption caused by staff turnover has resulted in 101 licensing actions not having been acted upon in a timely manner, as indicated in Section 3.2, Technical Staffing and Training.

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

3.4 Technical Quality of Inspections

The team reviewed enforcement documentation, inspection field notes, and data base information for 20 materials inspections conducted during the review period. The casework included inspections performed by the current program manager, two health physicists who terminated their employment with the State during the review period and inspections performed by a contractor hired to help with the inspection backlog created by the loss of three key staff and several reorganizations. The sampling included three nuclear medicine licensees, two each pool irradiator, service, fixed gauge, portable gauge and academic broad licensees and one each nuclear medicine/brachytherapy, mobile

nuclear medicine, self-shielded irradiator, radiography, academic/radiography, academic non-broad and teletherapy licensees. Appendix E provides a list of inspection cases reviewed in depth with case-specific comments.

The review team noted that the Nebraska program was adequate with respect to this indicator. Routine inspections usually covered all aspects of the licensee's radiation safety program. The team also noted that, during the accompaniment of State inspectors, the inspectors observed licensed operations or had operations demonstrated whenever possible. The observation of licensed activities provides the inspectors with an indication of the effectiveness of the licensee's radiation protection program. Finally, during the review period, the State conducted team inspections of larger licensees. Having multiple inspectors review a particular licensee's operations may lead to more thorough inspections and provide the opportunity for less experienced inspectors to observe experienced inspectors as an effective training technique.

The team reviewed the inspection field notes and found them to be comparable with the types of information and data collected under NRC Inspection Procedure (IP) 87100. The inspection field notes provided documentation of inspection findings in a consistent manner. The State uses separate inspection field notes for various classes of licensees, such as nuclear medicine, portable gauges, radiography, and industrial/academic. The State has not yet developed field notes specific for the inspection of HDRs or nuclear pharmacies. The State uses the nuclear medicine field notes for these type of licensees. The inspection field notes provide documentation of the scope of the licensee's program including, posting; storage and use of radioactive material; receipt, transfer, and disposal of radioactive material; inventory; leak tests; radiation protection program; personnel monitoring, training; independent measurements; and inspection findings.

The team found several deficiencies during review of field notes in the compliance files, such as incomplete documentation of technical and administrative information, which are addressed in Appendix E, and further clarified later in this section. The team noted that during the accompaniments of State inspectors, the State inspectors examined appropriate radiation health and safety issues at licensees' facilities. All the inspectors, who were accompanied by a team member, used the field notes to assure that all aspects of the program that could be reviewed were included in the scope of the inspection. The inspectors performed independent measurements whenever the licensee was using licensed material and also measured for radiation levels surrounding materials in storage. Inspectors' written comments in the field notes and the team member's observations during accompaniments indicate that safety issues were discussed with licensee personnel. The field notes indicated that the licensees' operations were observed when licensed operations were being conducted by the licensee and interviews with the State inspectors and observation by the team member during accompaniments support that they routinely tour licensee areas such as laboratories, other locations of use and storage areas. The inspectors emphasized the observation of licensed activities to determine the effectiveness of the licensee's radiation safety program and compliance to the requirements, a critically important inspection technique. The field notes indicated that the inspectors examined and, when appropriate, closed-out previous violations. Also because health physicists serve both as inspectors and license reviewers, there was evidence that licensing issues were considered in the inspection process.

Four inspector accompaniments were performed by a review team member during the period of June 24-28, 1996, and one accompaniment was performed during the review period on July 16, 1996. The accompaniments included the following:

(1) two inspections with two individuals from the LLRW program, the program manager and a health physicist, who are cross-trained and qualified as inspectors in the RAM program during an inspection of a radiography program (including a field site visit) and a mobile nuclear medicine program, respectively, and a second health physicist from the LLRW program, who was being cross-trained in the Materials Program assisted on these inspections; (2) a third inspection with the Radioactive Materials program manager and a staff health physicist during inspections of a large nuclear medicine and a self-contained blood irradiator program at a major medical facility; and a fourth inspection with another staff health physicist during the initial inspections of two separate portable gauge programs, one of which also included a field site. These accompaniments are also identified in Appendix E. During the accompaniments the Nebraska lead inspectors demonstrated appropriate inspection techniques and knowledge of the regulations. The inspectors were well prepared and very thorough in their reviews of the licensee's radiation safety program. Each inspector emphasized observation of the licensee's activities and interviews with personnel to assess the effectiveness of the licensee's radiation safety program. Overall, the technical performance of the inspectors was satisfactory, and their inspections were adequate to assess radiological health and safety at the licensed facility. The technical quality of inspections and the knowledge of the inspectors is a strength in the Nebraska program. The review team noted that the State relies on the technical knowledge of the inspectors to identify root causes of non-compliance and poor licensee performance rather than having procedures in place which normally could be used to assist the inspectors in this identification.

In response to the questionnaire, the State reported the number and type of supervisory accompaniments by senior program staff is not defined by a program procedure and they have not been documented in the past. However, in 1994, three inspectors were accompanied by a contract consultant who observed the inspector’s performance. The consultant was performing a review of the program staff by accompaniment as part of his contract to develop an Inspection and Enforcement Manual. Copies of the reports submitted for two of three staff evaluated were provided. There were no supervisory accompaniments of the Nebraska inspectors during 1995 and in the first six months of 1996. It should be noted that two of the three inspectors accompanied by the contractor in 1994 have since left the program and the third was promoted to program manager. The program manager indicated in discussions during the review that he was the lead inspector on several occasions and was accompanied by a staff health physicist for purposes of training, but had not performed an accompaniment in his capacity as the manager of the Radioactive Materials Program.

Therefore, the review team recommends that the State consider for adoption a policy of annual supervisory accompaniments of all individuals who perform inspections for the Radioactive Materials Program.

In response to the questionnaire, the State indicated that a contractor was hired to develop an Inspection and Enforcement Manual, which was completed in April 1994. The revised Enforcement Manual contains standardized text covering compliance issues for use in issuance of Notice of Violations (NOV) to licensees. Use of standardized text would enhance the efficiency of the compliance process; additionally, the Manual would prove very useful for training new staff. The program manager indicated that future plans included updating the Manual and implementing use of the Manual by the staff. Section 3.2 of this report covers procedures in greater detail.

It was noted that the State has available a variety of portable instruments for routine confirmatory surveys and use during incidents and emergency

conditions. The instruments were a mix of low and high range Geiger-Mueller detectors and pancake probes, micro R meter, alpha detector, and available quantitative instruments in the Department of Health Laboratory. The portable instruments used during the inspector accompaniments were observed to be operational and calibrated. The team noted that the instruments are calibrated on an annual basis.

It was found that the State is generally performing unannounced inspections of materials licensees. Initial inspections and geographically-distant location inspections are usually announced.

A review was conducted of the procedures and documentation of inspector field notes or completed reports to determine that they are complete and reviewed promptly by supervisors or management. That review found that previous practice indicated that a supervisory review was conducted. The radiation program manager position was vacant as of June 1995, and the person delegated responsibility for signing off on NOVs left the program on June 23, 1995. Subsequently, the team was provided with a July 1, 1995, internal memorandum designating the LLRW program manager as acting RAM program manager, but RAM program staff were not clear as to whether this went beyond signature authority for licensing actions. Therefore, it was not clear to the team or to the RAM staff that any one in the radioactive materials program had official supervisory signature responsibility prior to the announcement of a new program manager in May 1996. The normal practice of a supervisory review was not practiced during this time.

Inspection findings generally indicated that the State planned to take appropriate regulatory action with the following exceptions. As previously indicated, inspection findings, in the form of a letter to the licensee, had not been issued for 22 of the 27 inspections conducted by the contractor. Additionally, the team found that six of the 22 pending inspection findings resulted in a recommendation for enforcement action that had not yet been issued to the licensee. In one case, as indicated in Appendix E, the team found that the enforcement letter identified five violations to the licensee and the documentation in the field notes provided information for only two violations. The review team also found some other problems with the documentation of information on the field note reports as noted in the comments in Appendix E. The field notes on page one provide space for administrative information such as: inspection report no., license no., licensee (name and address), licensee contact, telephone no., priority, date of last inspection, date of this inspection, type of inspection, summary of findings and action, next inspection date and whether next inspection is at a normal, reduced or extended frequency, signature and date the inspector signed, and signature and date supervisor approved the report. Eleven of the field note reports did not have all the administrative information required. Ten reports were not approved with a supervisor's signature and date; and a few of the typed inspection reports did not contain any signature. The team believes that supervisory approval of inspection findings documented in the field notes prior to issuance of an enforcement letter is necessary to assure that the field notes contain sufficient information to support any violations or recommendations in an enforcement letter. In addition, seven of the field note reports had no technical information documented in areas such as: training of ancillary personnel; exit meeting attendees; pH, clarity and Cl or F concentrations in pool water; independent measurements, inventory of brachytherapy sources after return to storage, and Radiation Safety Committee (RSC) minutes/committee composition. The team noted that Nebraska Code 10.03, effective May 30, 1994, and compatible to 10 CFR 19.12, does not contain the August 1995 revisions to 10 CFR 19.12.

In discussions with the program manager, the team was informed that the previous requirement for typewritten field notes to be used as the documentation of inspection findings delayed the supervisory review until the field notes were typed. The new program manager stated that handwritten field notes would be accepted during the interim time period, while the staff try to complete the backlog of inspections. The new program manager stated that future plans include standardizing and automating the boilerplate inspection information.

In addition to the recommendation stated above regarding annual supervisory accompaniments of all individuals who perform inspections, the review team recommended that the program: (1) develop a plan or procedure to assure that field notes, as well as, reports, and enforcement letters are promptly reviewed, signed and dated by a supervisor within the recommended 30 day time frame for issuance of inspection findings; and (2) perform an immediate review of all contractor field notes and draft enforcement letters in order to finalize and issue the findings of the remaining 22 inspections to the licensees involved.

Based on the IMPEP evaluation criteria, the review team recommends that Nebraska's performance with respect to the indicator, Technical Quality of Inspections, be found Satisfactory with Recommendation for Improvement.

3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the State's actions in responding to incidents and allegations, the review team examined the State's response to the questionnaire relative to this indicator and reviewed the incidents reported for Nebraska in the "Nuclear Material Events Database (NMED)" against those contained in the Nebraska casework and license files, and supporting documentation, as appropriate for six incidents. In addition the team interviewed the Radioactive Materials program manager. Due to recent staff turnover the team was unable to interview other staff for this indicator.

The incident investigations were reviewed for responsiveness, coordination, health and safety significance and appropriate level of effort, investigative procedures, corrective actions, follow-up, compliance and notifications, as necessary.

Responsibility for initial response and follow-up actions to material events rests with the Radioactive Materials Program and the Low-Level Radioactive Waste Program. Written procedures require a prompt response to incidents by the staff and provide additional procedural guidance. Written procedures for allegations also require prompt response, but contained no further procedural guidance. The review team found that allegations were handled as routine incidents and files contained incomplete or no documentation of inspection results or State action. The team noted in one case that investigative techniques were insufficient to appropriately resolve alleged issues. The review team recommended revising the allegations procedures to incorporate key areas, i.e., documentation of any communications with the alleger, documentation of the inspection findings, interviewing techniques, etc., identified in NRC Management Directive 8.8, Management of Allegations.

The review team also noted that the staff did not have a procedure for tracking the status (i.e. identification, receipt, follow up, and closeout) of material events. The review team recommended that the staff use the draft "Handbook on Event Reporting in the Agreement States (Handbook)," published March 1995, for review and reporting of material events to NRC. The Handbook identifies the NRC Operations Center, Office for Analysis and Evaluation of Operational Data, as the proper group to receive voluntary notification of the

occurrence of significant events in an Agreement State, and provides guidance on the identification, reporting, follow-up reporting, and closeout of material events.

The review team found, through discussions with the Radioactive Materials program manager, that the staff have been unable to voluntarily report to NRC the occurrence of any material events since June 1995, due to the loss of three experienced staff members. Limited resources had to be redirected to other more critical areas. Therefore, the team was unable to evaluate whether or not the State provided information on all events that may have occurred during the period of review prior to June 1995. Two reportable events were found by the team during review of selected case files.

Through a review of information provided in the questionnaire and through review of selected case files, the team found that four reportable events had occurred, three of which had not been reported to NRC, and subsequently NMED. Two of the reportable events were identified in the State's response to the questionnaire as significant events that had occurred during 1995. Two of the reportable events examined by the team involved equipment malfunctions at an irradiator facility, and one involved loss of material. Other case files reviewed included a 1994 event involving the loss of material, that had previously been reported to NRC, an event involving the unauthorized use of equipment, and an event involving loss of control of radioactive material, both of which had not been reported to NRC. The team noted several case file deficiencies, i.e., one file contained no documentation of inspection results, another indicated insufficient follow-up action by the State to the loss of control of radioactive material, and a third indicated lack of State action to a late notification of the occurrence of an event by the licensee. With regard to the incidents that occurred at an irradiator facility, and one event involving equipment malfunction as a result of the unauthorized removal and replacement of equipment, the team discussed the need to report events involving equipment malfunction or possible defects of equipment with the program manager and the importance of documentation of contact with the alleger. The review team concluded that the State's documentation and in one instance response, to the occurrence of events involving the use of radioactive material and response to allegations needs improvement. They did not have a complete understanding of reporting requirements, and lacked proper procedures for handling allegations. A list of the incident reports examined is contained in Appendix F.

In addition to the above recommendation that the Nebraska staff revise the allegations procedures and incorporate use of the "Event Reporting Handbook," the team recommends establishment of comprehensive procedures for tracking, follow up and close out of events involving the use of radioactive material covered under the Atomic Energy Act. The review team also recommends that the State immediately begin reporting current material events to NRC and send in information on the three events identified during the review as reportable, to the State, but were not previously reported to NRC.

Based on the IMPEP evaluation criteria, the review team recommends that Nebraska's performance with respect to this indicator, Response to Incidents and Allegations, be found Satisfactory with Recommendations for Improvement.

4.0 **NON-COMMON PERFORMANCE INDICATORS**

4.1 Legislation and Regulations

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State programs: (1) Legislation and Regulations, (2) Sealed Source and Device Evaluation Program, (3) Low-Level Radioactive Waste

Disposal Program, and (4) Uranium Recovery. Nebraska's agreement does not cover uranium recovery operations, so only the first three non-common performance indicators were applicable to this review.

4.1.1 Legislative and Legal Authority

Along with their response to the questionnaire, Nebraska provided the review team with copies of legislation that affects the radiation control program. The Nebraska Department of Health regulates use of radioactive material. NDEQ and NHHS have shared responsibilities for regulation of the planned low-level radioactive waste site. Based on the response to the questionnaire, and on statements by the Director of the Department of Health that there had been no change to the State legislation that affected the duties or responsibilities of the materials programs, the review team did not review the legislation but relied on previous reviews where State legislation was determined to be adequate. The team did note the legislative changes that will result in the reorganization of the Department.

4.1.2 Status and Compatibility of Regulations

Nebraska's latest rules and amendments became effective May 30, 1994. The equivalent NRC rules are: "Decommissioning," 10 CFR Parts 30, 40, and 70; "Emergency Planning," 10 CFR Parts 30, 40, and 70; "Standards for Protection against Radiation," 10 CFR Part 20; "Safety Requirements for Radiographic Equipment," 10 CFR Part 34; "Notification of Incidents," 10 CFR Parts 20, 30, 31, 34, 39, 40, and 70; and "Decommissioning Recordkeeping and License Termination: Documentation Additions," 10 CFR Parts 30, 40, 70, and 72. Not all of these regulations were promulgated within the three year period following the adoption of the NRC regulation. The team reviewed the final published Nebraska regulations equivalent to the above and found them to be compatible with the NRC regulations.

There are four irradiators in use in Nebraska which would be subject to the regulations in "Licensing and Radiation Safety Requirement for Irradiators," 10 CFR Part 36. Equivalent rules were in development when the reorganizations and personnel turn over discussed earlier in this report occurred. As a result of personnel reassignments, the rules were not adopted by their due date of July 1, 1996. At the time of the review, the rules were scheduled for public hearing and adoption was expected by the end of the calendar year.

Nebraska does not regulate uranium recovery operations, and does not have rules equivalent to NRC's regulations applicable to uranium recovery contained in 10 CFR Part 40. Therefore, it will not adopt the regulations equivalent to "Uranium Mill Tailings Regulations: Conforming NRC Requirements to EPA Standards," 10 CFR Part 40 amendments (59 FR 28220) that became effective on July 1, 1994, and will need to be adopted by July 1, 1997. Nebraska has assumed regulatory authority for a low-level radioactive waste site, and has selected an enhanced technology for disposal. Therefore, the State does not need to adopt the land disposal definition part of the "Definition of Land Disposal and Waste Site QA Program," 10 CFR Part 61 amendments (58 FR 33886) that became effective on July 22, 1993. The State has adopted the QA program portion of the amendment.

In addition to the above, the team found that work is in progress to develop equivalent rules to the following, which the program has scheduled for adoption in January 1997.

- "Quality Management Program and Misadministration," 10 CFR Part 35 amendment (56 FR 34104) that became effective on January 27, 1992. An

NRC staff evaluation of whether this rule will be used to evaluate Agreement State compatibility continues.

- "Self-Guarantee as an Additional Financial Mechanism," 10 CFR Parts 30, 40, 70 amendments (58 FR 68726, 59 FR 1618) that became effective on January 28, 1994. Note, this rule is designated as a Division 2 matter of compatibility. Division 2 compatibility allows the Agreement State flexibility to be more stringent (i.e., the State could choose not to adopt self-guarantee as a method of financial assurance. If a State chooses not to adopt this regulation, the State's regulation, however must contain provisions for financial assurance that include at least a subset of those provided in NRC's regulations, e.g., prepayment, surety method (letter of credit or line of credit), insurance or other guarantee method (e.g., a parent company.)

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

- "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.

- "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. Note, this rule is designated as a Division 2 matter of compatibility. Division 2 compatibility allows the Agreement States flexibility to be more stringent (i.e., the State could choose to continue to require annual medical examinations).

- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20 and 61 amendments (60 FR 15649, 60 FR 25983) that will become effective March 1, 1998. Nebraska and the other Agreement States are expected to have an equivalent rule effective on the same date.

- "Radiation Protection Requirements: Amended Definitions and Criteria," 10 CFR Parts 19 and 20 amendments (60 FR 36038) that became effective August 14, 1995.

- "Medical Administration of Radiation and Radioactive Materials," 10 CFR Part 20 and 35 amendments (60 FR 48628) that became effective October 20, 1995.

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

- "Compatibility with the International Atomic Energy Agency," 10 CFR Part 71 amendment (60 FR 50248) that became effective April 1, 1996.

The review team examined the procedures used in the State's regulation promulgation process and found that the public is offered the opportunity to comment on proposed regulations during a comment period and in a public hearing that follows the comment period. According to the staff member responsible for rules development, NRC is provided with drafts for comment on the proposed regulations early in the promulgation process. A copy of the final regulation is submitted to NRC.

During discussions with the review team, the staff explained that they had begun the process of drafting revisions to the regulations which they expect to promulgate in January 1997 for new regulations due through 1998. The State

is aware of the importance of maintaining compatible regulations, and the State plans to update regulations yearly to maintain compatibility.

The review team identified a possible incompatibility in Section 012 of the Nebraska regulations, which are rules equivalent to NRC's 10 CFR Part 61. The Nebraska regulations, as written, apply the public dose limits in 180 NAC 1-012.22 (equivalent to 10 CFR 61.41) to low-level radioactive waste facilities that process or store waste, as well as to disposal sites. Under NRC regulations, such facilities would not be subject to the equivalent public dose limits in 10 CFR 61.41, but rather to the public dose limit in 10 CFR Part 20. The Nebraska regulations may thus be more stringent than the equivalent NRC rules, however, both 10 CFR 61.41 and 10 CFR 20.1301 are Division 1 compatibility requirements. In response to the team's request for clarification regarding application of the public dose limits in the State's equivalent regulations to 10 CFR Part 61, the State responded in a letter dated December 13, 1996. The State responded that they do not currently have any brokers, treatment facilities, or storage facilities to which this regulation has been applied. In accordance with the report that identified it as a Division 1 compatibility requirement which can only be applied to land disposal facilities, the Department intends to amend the regulation and anticipates this can be done by June 30, 1997. The State included a copy of the proposed amendment to 180 NAC 1-012.22 (equivalent to 10 CFR 61.41). Since there are no licensees to which the more stringent standard is applicable and Nebraska has committed to revise 180 NAC 1-012.22, the review team believes this matter is not a significant issue. In accordance with the State's commitment, the team recommends that Nebraska amend 180 NAC 1-012.22 to remove its applicability to waste treatment and storage facilities. (Section 4.1.2)

Based on the IMPEP evaluation criteria, at the time of the review, the team recommended that Nebraska's performance with respect to the indicator, Legislation and Regulations, be found unsatisfactory due to the failure to adopt regulations equivalent to 10 CFR Part 36 by July 1, 1996. Subsequent to the review, the State informed the team that Section 019 of the Nebraska Code, "Licenses and Radiation Safety Requirements for Irradiators," was adopted effective October 30, 1996, and inquired whether the team reviewed the area of other legally binding requirements. After review, NRC informed the State on December 9, 1996, that the regulations were compatible. Note, the option of legally binding license conditions equivalent to the requirements contained in 10 CFR Part 36 had not been officially implemented at the time of the review, therefore, the reviewer did not look at this option. In response to the States adoption of 10 CFR Part 36 equivalent regulations, the team, based on additional information, is recommending that Nebraska's performance with respect to this indicator be found Satisfactory.

4.2 Low-Level Radioactive Waste Disposal Program

In the process of evaluating this performance indicator, the review team studied the State's response to the questionnaire, reviewed the terms of the Memorandum of Understanding between NDEQ and NHHS, compared Nebraska LLRW statutes and regulations with those of the NRC, evaluated the qualifications of the technical staff and contractors, reviewed the States written procedures and plans, reviewed or discussed parts of the safety analysis report (SAR), audits, and contractor reports, and any other supporting documentation, as necessary, and interviewed all staff and managers assigned to the LLRW program. In addition, the team evaluated the effectiveness of the shared responsibility for regulation of LLRW in Nebraska.

4.2.1 Introduction

The State of Nebraska received a License Application from U.S. Ecology on July 27, 1990, to operate a low-level radioactive waste facility in the State. A site characterization plan was submitted to NDEQ on June 6, 1989. The State is presently reviewing the License Application submitted by U.S. Ecology, to develop a facility in the State; therefore, limited information may exist with respect to State activities for some of the performance indicators.

In the shared responsibility for regulation of LLRW, the NHHS and the NDEQ programs have agreed to procedures that are detailed in Section 1, Licensing Organization, of the Licensing Program Plan (LPP-01). As part of a commitment made in response to NRC recommendations following the 1990 program review, there are monthly meetings attended by the LLRW Program Manager and Director from each department. The meetings are not required as part of LPP-01. These meetings appear to be an effective means to keep management aware of program issues and progress, and to resolve issues that could be disruptive to the program.

4.2.2 Status of Low-Level Radioactive Waste Disposal Program

With the program in the pre-licensing non-operational phase, inspections are not applicable.

4.2.3 Technical Staffing and Training

NHHS staff assigned principally to the LLRW program include a program manager (a health physicist), a health physicist with a specialty in environmental surveillance, a health physicist with a specialty in performance assessment, a radiation-health specialist, and three staff assistants (one in Lincoln, NE and two in Butte, NE). In addition, there is a vacant position for a health physicist with a specialty in nuclear engineering.

The NDEQ LLRW program includes a program manager, an environmental specialist with specialties in health physics and performance assessment, an administrative assistant specializing in document preparation and public relations, a staff assistant specializing in document control, and a secretary. The LLRW program receives occasional support from technical specialists in other NDEQ programs as short-term needs arise.

The LLRW program relies upon contractors for additional technical support and to provide additional technical specialists as needed for the SAR review (approximately 78 contractor staff). The NDEQ LLRW program has continuing contracts with the University of Nebraska-Lincoln and a number of consulting-engineering firms. The engineering firms provide their in-house expertise as well as sub-contracting for national expertise in selected technical areas. These areas include:

Hydrogeology	Economics
Surface-Water Hydrology	Seismology
Geology	Biology
Nuclear Engineering	Climatology/Meteorology
Geotechnical Engineering	Sociology
Structural Engineering	Quality Assurance
Operational/Construction	Geochemistry
Mechanical Engineering	Performance Assessment
Health Physics	Financial Assurance
Environmental Engineering	Regulatory Analysis
Materials Engineering	Project Management
Civil Engineering	

The team reviewed the documentation of qualifications and training of staff in both the NHHS and NDEQ LLRW programs. In addition, the team reviewed the documentation of qualifications and Quality Assurance (QA) training that the program requires of review managers (8) and approximately 80 technical reviewers of the SAR. Staff and contractors are all highly qualified for their responsibilities in the LLRW program, easily meeting the guidance specified in NUREG/CR-4352, "Suggested State Requirements and Criteria for a Low-Level Radioactive Waste Disposal Site Regulatory Program." The LLRW program has actively supported staff and contractor training in QA Procedures, Performance Assessment and other courses or workshops applicable to the program. The documentation to allow tracking or reporting of the status and history of staff and contractor training are not readily accessible and are not summarized. Training documentation is required and accessible during internal audits or surveillance of the contractors that are part of the program but is not accessible outside of the context of the audit/surveillance. Formalized tracking of NDEQ and NHHS program staff training is apparently not required at the present time. The team suggests that the LLRW program assemble training documentation for individual staff and contractors and develop a consolidated training record to enable assessment of the progress of training across the entire program.

4.2.4 Technical Quality of Licensing Actions

With current program emphasis on review of the applicant's SAR and documentation of Evaluation Findings prior to preparation of the Draft Safety Evaluation Report, the IMPEP team examined the project's SAR review comments, comment tracking and reviewer qualification documentation. This involved tracing comments either through to closure resulting from subsequent SAR modifications, or as persistent open issues.

The program has a well organized QA program to govern all program activities that might affect public health and safety. This QA program enabled the team to readily review and track the SAR review process.

A total of 195 comments in the subject areas of site characterization and performance assessment were tracked. Of these, the only questions arose due to seven comments submitted by a reviewer whose Technical-Review Qualification Statement was not on file. This omission was corrected once it was brought to the attention of the program staff.

The team also reviewed a Quality Assurance Compliance Inspection Audit, performed by a LLRW audit team, of the U.S. Ecology's engineer of record for the project, Bechtel National Inc., Oak Ridge, Tennessee. This audit was selected because it examined the QA associated with performance assessment calculations. The applicant was informed of this audit on July 21, 1995. The audit took place on August 10-11, 1995 at the Bechtel National Inc. offices at Oak Ridge, Tennessee and was performed by three auditors and two technical specialists from the Nebraska LLRW program. The Quality Audit Checklist prepared prior to the audit contained 56 audit items; some were generic but many targeted directly at the applicant's program. The audit resulted in additional audit items, resulting in a total of 78 audit items. The audit resulted in 11 compliance nonconformances that were transmitted to the applicant on January 18, 1996. The applicant responded on April 23, 1996 and is in the process of resolving the nonconformances.

The team believes that the Nebraska LLRW program has a commendable QA program for auditing the applicant and for internal auditing within the Nebraska LLRW program.

4.2.5 Technical Quality of Inspections

With the program in the license-application review phase, inspections are not applicable.

4.2.6 Response to Incidents and Allegations

There were no incidents or allegations reported.

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

4.3 Sealed Source and Device Program

The review team did not review the State's sealed source and device (SS&D) evaluation even though they currently have responsibility for this area because the State has indicated that it plans to formally relinquish its SS&D authority. The State has performed only one SS&D review in the past 25 years and did not perform any SS&D evaluations during the period of review.

5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found the State's performance with each of the performance indicators to be satisfactory or satisfactory with recommendations for improvement, with two exceptions. The team found the State's performance unsatisfactory in Section 3.2, Technical Staffing and Training, and Section 4.1.2, Status and Compatibility of Regulations. A review of previous program reviews between 1986-1992 indicated similar problems were found in staffing, inspection program, compatibility of regulations, enforcement and management control. The team observed that the State experienced weaknesses and deficiencies throughout the program during the reporting period which were compounded by the loss of three key staff members and two reorganizations. Difficulties identified during the review include: (1) a backlog of 9 core inspections; (2) 22 inspections pending supervisory review and notification of the findings to the licensee; (3) inspection reports were incomplete; (4) a backlog of 101 licensing actions; (5) no incident reporting to NRC since June 1995; (6) incomplete documentation of incident response and response to allegations; (7) regulations required for compatibility not adopted in timely fashion; and (8) no "get-well" plan. All of these factors considered collectively led the team to find that State's response to Section 3.2, Technical Staffing and Training, was unsatisfactory at the time of the review. Subsequently, at the January 22, 1997 MRB meeting, the MRB, in consideration of the current staffing level and the corrective actions already taken and actions plans identified by the State, revised the team's recommendation for Section 3.2, from Unsatisfactory to Satisfactory with Recommendations. The team found Section 4.1.2, Status and Compatibility of Regulations, unsatisfactory, at the time of the review, due to the failure to adopt regulations equivalent to 10 CFR Part 36 by July 1, 1996. However, subsequently this regulation was promulgated on October 30, 1996, with the minor exception of the applicability of a more stringent radiation protection standard to a non-existent class of licensees, the Nebraska program is currently compatible.

The team found that the primary root causes for the deficiencies found in the program were directly attributable to (1) the need for management improvement to effectively assess and respond to the reduced level of performance in the Agreement State program, and (2) lack of current, written, program procedures or failure of staff to follow these procedures. Accordingly, the team

recommended that the MRB find the Nebraska program 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 Nebraska program, at the time of review, that included unsatisfactory in one performance indicator, the team recommended a period of probation for a duration to be established after consultation with Nebraska radiation control program management. Subsequently, at the January 22, 1997 MRB meeting, in consideration of the corrective actions already taken and actions plans presented by the State, the team revised their recommendation from probation to a recommendation that NRC conduct a follow-up IMPEP review of the State's program, within one to one and one-half years from the date of the last IMPEP review, but not later than September 1997. The team also recommended that the State keep NRC apprised of the status of corrective actions and plans. The MRB considered and concurred with the review team's recommendation.

Recommendations

Below is a summary list of recommendations and suggestions, as stated in earlier parts of this report, for consideration and action by the State.

1. The review team recommends that the managers responsible for the Nebraska Radioactive Materials Program establish an action plan or procedure to assure inspections are completed at the frequencies stated in the Nebraska Inspection Manual which is equal to the NRC's IMC 2800 and conduct reciprocity licensee inspections at the required frequencies stated in IMC 1220. (Section 3.1)

2. The review team recommends that the managers establish an action plan or procedure for coordinating deviations from the inspection schedule between staff and management based on the risk of license operations, past performance and need to temporarily defer the inspections to address more urgent or critical priorities. (Section 3.1)

3. The review team recommends that the managers organize a "get well" plan for rescheduling missed or deferred inspections, especially due to loss of senior staff; and establish a plan or methodology to assure initial inspections are performed within 6 months of issuance of the license, beginning licensed activities, or within one year of license issuance, whichever comes first, in accordance with the Nebraska Inspection Manual and NRC's IMC 2800. (Section 3.1)

4. The team recommends that the qualifications of contractor personnel be tied to the contract as identified by the program manager or as accomplished by the LLRW program in NDEQ. (Section 3.2)

5. The team recommends that a written program for staff qualification, including retaining training records, be developed. (Section 3.2)

6. The team recommends that the State develop comprehensive administrative procedures, sufficient to guide the day-to-day operation of the program in the event of another loss of senior staff. The procedures should include a formal process for bringing to the attention of upper management the increase of significant backlogs of licensing, inspection, or enforcement actions, or any other situation which increases the risk to public health and safety. Licensing procedures should include prioritization of licensing actions based upon identified factors, including health and safety significance, for new and previously received applications. (Section 3.2)

7. The review team recommends that the State consider for adoption a policy of annual supervisory accompaniments of all individuals who perform inspections for the Radioactive Materials Program. (Section 3.4)

s8. The review team recommends that the State develop a plan or procedure to assure that field notes, as well as, reports, and enforcement letters are promptly reviewed, signed and dated by a supervisor within the recommended 30 day time frame for issuance of inspection findings. (Section 3.4)

9. The review team recommends that the State perform an immediate review of all contractor field notes and draft enforcement letters in order to finalize and issue the findings of the remaining 22 inspections to the licensees involved. (Section 3.4)

10. The review team recommends revising the allegations procedures to incorporate key areas, i.e. documentation of any communications with the alleger, documentation of the inspection findings, interviewing techniques, etc., identified in NRC Manual Directive 8.8, Management of Allegations. (Section 3.5)

11. The review team recommends that the staff use the draft "Handbook on Event Reporting in the Agreement States (Handbook)," published March 1995, for review and reporting of material events to NRC. (Section 3.5)

12. The review team recommends establishment of comprehensive procedures for tracking, follow up and close out of events involving the use of radioactive material covered under the Atomic Energy Act. (Section 3.5)

13. The review team recommends that the State immediately begin reporting current material events to NRC and send in information on the three events identified during the review as reportable, that were not previously reported to NRC. (Section 3.5)

14. In accordance with the State's commitment, the team recommends that Nebraska amend 180 NAC 1-012.22 to remove its applicability to waste treatment and storage facilities. (Section 4.1.2)

15. The team suggests that the LLRW program assemble training documentation for individual staff and contractors and develop a consolidated training record to enable assessment of the progress of training across the entire program. (Section 4.2.3)

LIST OF APPENDICES

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
Patricia M. Larkins, OSP	Team Leader Response to Incidents and Allegations
Jenny Johansen, RI	Status of Materials Inspection Program Technical Quality of Inspections
Richard Blanton, OSP	Technical Staffing and Training Legislation and Regulations
Charles Mattson, Colorado	Technical Quality of Licensing Actions
Ralph Cady, RES	Low-Level Radioactive Waste Program

APPENDIX B

NEBRASKA HEALTH AND HUMAN SERVICES SYSTEM

DEPARTMENT OF REGULATION AND LICENSURE

AND

PUBLIC HEALTH ASSESSMENT DIVISION

ORGANIZATION CHART

APPENDIX C

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM (IMPEP) QUESTIONNAIRE