

July 31, 2003

Ms. Arvy Smith  
Deputy State Health Officer  
North Dakota Department of Health  
State Capitol  
600 East Boulevard Avenue  
Bismarck, ND 58505-0200

Dear Ms. Smith:

On July 14, 2003, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the North Dakota Agreement State Program. The MRB found the North Dakota program is adequate to protect public health and safety and is compatible with the Nuclear Regulatory Commission's (NRC) program. No recommendations were made by the review team.

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

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

Sincerely,

*/RA/*

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

Enclosure:  
As stated

cc: L. David Glatt, Section Chief  
Environmental Health Section

Terry O'Clair, Director  
Division of Air Quality

Kenneth Wangler, Manager  
Radiation and Indoor Air

Roland Fletcher, MD  
OAS Liaison to the MRB

bcc: Chairman Diaz

Commissioner McGaffigan  
Commissioner Merrifield

Distribution:

DIR RF  
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| DATE   | 7/16/03      | 7/17/03  | 7/18/03  | 07/31/03     |  |  |

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
REVIEW OF NORTH DAKOTA AGREEMENT STATE PROGRAM

April 22 - 25, 2003

**FINAL REPORT**

U.S. Nuclear Regulatory Commission

## 1.0 INTRODUCTION

This report presents the results of the review of the North Dakota Agreement State program. The review was conducted during the period April 22-25, 2003, by a review team consisting of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Arkansas. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of a Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the November 5, 1999, [NRC Management Directive 5.6](#), "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period of April 17, 1999 to April 25, 2003, were discussed with North Dakota management on April 25, 2003.

A draft of this report was issued to North Dakota for factual comment on May 23, 2003. The State responded by letter dated June 17, 2003. The Management Review Board (MRB) met on July 14, 2003 to consider the proposed final report. The MRB found the North Dakota radiation control program adequate to protect public health and safety and compatible with NRC's program.

The North Dakota Agreement State program is administered by the Radiation and Indoor Air Branch (the Branch), Division of Air Quality (the Division), Environmental Health Section, North Dakota Department of Health (the Department). The Department is the designated radiation control agency. Organization charts are included in Appendix B. At the time of the review, the North Dakota Agreement State program regulated 65 specific licenses authorizing Agreement materials. The State administers a radiographer certification program as a certifying entity. The State, in coordination with the Conference of Radiation Control Program Directors and the State of Texas, proctors the Texas exam. The State has certified approximately 50 radiographers. 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 North Dakota.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Branch on February 20, 2003. The Branch provided a response to the questionnaire on April 2, 2003. A copy of the questionnaire response can be found on NRC's Agencywide Document Access and Management System using the Accession Number ML031050464.

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

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

indicators are presented in Section 3. Section 4 discusses results of the applicable non-common performance indicators, and Section 5 summarizes the review team's findings.

## 2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on April 16, 1999, five recommendations were made and transmitted to Mr. Murray G. Sagsveen, State Health Officer, North Dakota Department of Health. Three recommendations were closed during the 2000 follow-up review. The team's review of the current status of the remaining open recommendations is as follows:

1. The review team recommends that management perform an in-depth review of the Branch's current and future anticipated activities and obligations to ensure budgeted staffing levels are adequate to fulfill the responsibilities of the program.  
(Recommendation 4 from Section 3.3 of the 1999 report)

Current Status: At the 2001 Periodic Meeting, program management reviewed the staffing levels for the program and determined that the current staffing level for licensing and inspection is appropriate for their program. The 2003 review team agrees that the program has sufficient staffing levels to fulfill the responsibilities of the program. This recommendation is closed.

2. The review team recommends that the State provide training to technical personnel, either by formal course work or equivalent, in the area of brachytherapy.  
(Recommendation 5 from Section 3.3 of the 1999 report)

Current Status: One staff member successfully completed NRC's teletherapy/ brachytherapy course in August 1999. The second staff member has not yet been scheduled for this course, but he plans to attend the next teletherapy/ brachytherapy course on a space-available basis. As the Branch has one inspector that is qualified to perform this type of inspection, and no performance issues were identified involving this type of inspection, this recommendation is closed.

## 3.0 COMMON PERFORMANCE INDICATORS

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

### 3.1 Technical Staffing and Training

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

The radioactive materials program has three technical positions, including the Branch Manager. The Division Director also contributes some of his time to the radioactive materials program. Branch staffing was stable over the review period. Due to a low turnover rate, the staff consists of experienced personnel. The Branch currently has no vacant positions. The review team

noted that the Branch had stable funding during the review period due to dedicated revenue from licensee fees. Branch fees are approximately one third of and proportional to NRC's fees. Approximately 90 percent of materials operations are paid for through fees.

Training and qualification requirements for Branch staff are established in a Training Regimen Checklist which sets forth essentially the same training and qualification recommendations detailed in NRC's Inspection Manual Chapter (IMC) 1246, as well as indication of ability to perform specific inspections independently. The staff are well trained and qualified from an education and experience standpoint. Training requirements include NRC, or equivalent, training courses when available.

All technical staff members have taken the NRC courses deemed appropriate for their tasks. Branch management is committed to continual training for the staff. The review team concluded that the Branch has a well balanced staff, and a sufficient number of trained personnel to carry out regulatory duties.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that North Dakota's performance with respect to the indicator, Technical Staffing and Training, was satisfactory.

### 3.2 Status of Materials Inspection Program

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

The team's review of the Branch's inspection priorities verified that inspection frequencies for various types of licenses are at least as frequent as, or more frequent than, similar license types listed in NRC IMC 2800. Seven of the 24 license categories established by the State are inspected more frequently than similar license types listed in NRC IMC 2800. The Branch has a procedure for reducing or extending an inspection frequency based on the compliance history of the licensee.

The Branch uses an Access database to track all inspection data. A report is generated periodically to identify inspections due during the next seven months. These inspections are then assigned to an inspector and tentatively scheduled. Management and staff have been able to track the timeliness of individual inspections effectively using this tool.

At the time of the review, there were no overdue core inspections, including initial inspections. The review team examined the Branch's tracking information for a total of 37 inspections, which included 13 initial inspections. Only one core routine inspection was conducted overdue during the review period, and was completed only three days overdue. However, this inspection was intentionally delayed by Branch management to be a candidate for the IMPEP inspection accompaniments.

The timeliness of the issuance of inspection findings was evaluated during the inspection casework review and by reviewing the inspection history generated by the database. The Branch requires all inspection correspondence to licensees to be issued within 30 days

following the date of the inspection. For the 62 routine inspection files examined, only two inspection findings were sent to the licensees beyond the 30-day goal. These occurred early in the review period.

During the review period, the Branch granted 47 reciprocity permits, of which, 26 permits were core licensees based on NRC IMC 1220. The review team noted that the Branch's reciprocity inspection policy requires that 20 percent of Priority 1, 2, and 3 licensees be inspected each year and other Priorities be inspected as resources allow. The team determined that the Branch met and exceeded the NRC IMC 1220 criteria for each year except fiscal year 2001. Branch management indicated that due to the limited number of reciprocity inspection candidates, a decision was made to round down the number of inspections to be conducted. The team concluded that the Program's approach is acceptable.

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

### 3.3 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and inspection field notes and interviewed inspectors for a total of 10 inspections, including a representative sample of the core and non-core radioactive materials inspections conducted during the review period. The casework included both of the Branch's fully trained materials inspectors, as well as inspections in which the Branch Manager participated. The review incorporated inspections of a variety of licensed activities including: industrial radiography, academic broad scope research and development, medical institution with quality management plan (including high dose-rate remote afterloading (HDR) brachytherapy), well logging, and portable gauges. Appendix C lists the inspection casework files reviewed for completeness and adequacy with case-specific comments.

Based on the casework file reviews, the review team found that routine inspections covered all aspects of the licensee's radiation protection program. The inspection reports were exceptionally thorough, complete, consistent, and of high quality, with sufficient documentation to demonstrate that licensee's performance with respect to health and safety was acceptable. Inspection documentation frequently included photographs illustrating licensee facilities and documenting the actual conduct of licensed activities. The documentation adequately supported the cited violations. Exit interviews were held with appropriate licensee personnel. Team inspections were performed when appropriate and for training purposes.

The review team found that documentation of routine inspections adequately cover the licensee's radiation protection program, include a written summary of the scope of the licensed activities and specific reviews of various aspects of the licensee's radiation safety program. In each case violations were identified, a written analysis of the licensee's responses along with any needed follow-up actions was prepared by the inspector. These documents provided a clear easy-to-follow record of decision regarding the enforcement action.

The review team determined that violations identified during inspections were reviewed by the Branch Manager on a case-by-case basis for consideration for referral to the State Attorney General's Office for escalated enforcement. Available escalated enforcement options include the issuance of formal Notices of Violation from the Attorney General and the imposition of

monetary civil penalties. One reciprocity inspection file was reviewed. This file documented the inspection and subsequent imposition of a \$9,000 civil penalty against an industrial radiography licensee for failure to secure a radiography camera and other violations while operating in North Dakota under reciprocity. This file contained complete information describing the basis for the escalated enforcement action. The team also found documentation in the file indicating that the inspectors exercised notable initiative that led to the discovery of an unsecured radiography camera in an area to which the public had frequent and ready access.

The Branch Manager attempts to conduct supervisory accompaniments of material inspectors on at least 10 percent of all inspections. During this review period, the Branch Manager conducted at least one documented accompaniment of each inspector each year. The Branch Manager indicated that he would prefer to meet the 10 percent Branch goal for accompaniments each year and intends to focus additional effort on this goal.

The review team accompanied two materials inspectors during the week of March 17, 2003 during inspections of two industrial radiography licensees and a medical institution licensed for diagnostic nuclear medicine. These accompaniments are identified in Appendix C. Inspections were generally unannounced. However, the inspectors indicated that they may contact the licensee either the day before, or the morning of, an inspection to ensure that appropriate licensee personnel are available prior to dispatching an inspector to the facility. During the accompaniments, each of the inspectors demonstrated appropriate performance-based inspection techniques and knowledge of the regulations. The inspectors were well prepared and thorough in their reviews of the licensees' radiation safety programs. The inspections were adequate to assess radiological health and safety at the licensed facilities. The review team, the inspectors, and the Branch Manager discussed further improving the interviewing techniques used during inspections.

The Branch has an adequate number and types of survey meters to support the current inspection program, as well as for responding to incidents and emergency conditions. The Branch has contractors who calibrate their survey instruments on an annual basis. Appropriate documentation of calibrated survey instruments was available. Radioactive contamination samples can be evaluated at the Department's Chemistry Division counting laboratory with a liquid scintillation counting system.

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

### 3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed license reviewers for 12 specific licenses. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities used, qualifications of authorized users, adequate facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Licenses were evaluated for overall technical quality including accuracy, appropriateness of the license, its conditions, and tie-down conditions. Casework was evaluated for timeliness; adherence to good health physics practices, reference to appropriate

regulations, documentation of safety evaluation reports, product certifications or other supporting documentation, consideration of enforcement history on renewals, pre-licensing visits, peer or supervisory review as indicated, and proper signature authority. The files were checked for retention of necessary documents and supporting data.

Licensing casework was selected to provide a representative sample of licensing actions that were completed during the review period. The sampling included the following types of licenses: medical facilities including brachytherapy and HDRs, mobile nuclear medicine, broad scope university, portable gauge, moisture/density gauge, and well logging including sealed sources and tracers. Licensing actions selected for evaluation included one new license, three renewals, six amendments and two termination files. A listing of the licenses evaluated can be found in Appendix D.

Overall, the review team found that the licensing actions were thorough, complete, consistent, and of acceptable quality with health and safety issues properly addressed. Documentation of each review was thorough and complete. License tie-down conditions were stated clearly, backed by information contained in the file, and inspectable. The licensee's compliance history was taken into account when reviewing renewal applications and amendments. The license reviewers appropriately used the Branch's licensing guides and policies and standard licensing conditions.

The license reviewers conduct a technical review of each licensing action and prepare the appropriate licensing documents. The Branch Manager performs a technical and supervisory review on all licensing actions. The Division Director performs a supervisory review before the license is issued under his signature. The Branch issues licenses for a five-year period.

The review team evaluated financial assurance and decommissioning activities conducted by the Branch. The team concluded that the Branch handles financial assurance appropriately. The team found that terminated licensing actions were well documented. The files included the appropriate material transfer records and survey records. Confirmatory surveys for license terminations were conducted when appropriate. There were no performance issues identified with the handling of financial assurance or decommissioning by the Branch.

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

### 3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the Branch's actions in responding to incidents, the review team examined the Branch's responses to the questionnaire relative to this indicator, reviewed the incident reports for North Dakota in Nuclear Materials Event Database (NMED) against those contained in the Branch's files, and evaluated reports and supporting documentation for nine incidents. A list of the incident casework examined is included in Appendix E. The review team also reviewed the Branch's response to three allegations involving radioactive material.

The incidents selected for review included the following event categories: transportation, overexposure, medical event, and faulty equipment. The review team found that the Branch's responses to incidents were, in general, complete and comprehensive. Initial responses were prompt and well coordinated, and the level of effort was commensurate with the health and

safety significance. The Branch dispatched inspectors for onsite investigations when appropriate and took suitable follow-up actions.

The responsibility for initial response and follow-up actions to materials incidents may be assigned to one of the two materials inspectors or the Branch Manager. Upon receipt, staff reviews the report, decides on the appropriate response, and enters the information into a database tracking system. Documentation related to an incident is placed in the appropriate license file, an incident file, and/or a separate confidential file depending on the subject matter.

The review team noted that North Dakota's procedures included a list of trained personnel in the State who would be willing to respond to a radiation incident, such as a transportation incident, and provide initial assessment of the incident or assist during the incident until State radiological emergency response personnel can arrive. The list includes the names of volunteers, their location within the State, the types of equipment they have available, and contact telephone numbers. The review team recommended and the MRB agreed that the use of such a cadre of responders is a good practice.

The Branch's incident procedure references the NRC's "Handbook on Nuclear Material Event Reporting in the Agreement States" reporting requirements for incidents. The review team identified four incidents in NMED for North Dakota during the review period. The review team noted that all events requiring 24 hour notification and routine and/or event updates, requiring 30-day notification, were reported to the NRC for inclusion in NMED. In addition, events not meeting the reporting criteria in the handbook are entered into the NMED database for tracking purposes.

In evaluating the effectiveness of North Dakota's actions responding to allegations, the review team examined the Branch's questionnaire responses relative to this indicator, and the Branch's allegation procedure. The casework for three allegations was reviewed. The Branch evaluates each allegation and determines the proper level of response. The review of the casework and the files indicated that the Branch took prompt and appropriate action in response to the concerns raised. Each of the allegations reviewed was closed, and the allegeders were informed of the results, when possible. No performance issues were identified involving allegations. Review of the casework for one allegation demonstrated that the Branch had provided interviewed personnel with copies of the North Dakota Code that provided them protection under North Dakota Law.

During review of the casework for two allegations, the review team was unable to determine why the allegations were not substantiated. During discussions with management and staff, the review team learned why the Branch determined the allegations were not substantiated, and it was agreed that the casework lacked some documentation supporting the findings.

The review team noted that Section GII.B. of North Dakota's procedures states protection of witnesses is provided for in Rule 509, North Dakota Rules of Evidence. The procedures further state that it is the responsibility of the Branch Manager to handle requests for information. The State makes every effort to protect an allegeder's identity, but it cannot be guaranteed. The review team found this practice acceptable.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that North Dakota's performance with respect to the indicator, Response to Incidents and Allegations, was satisfactory.

#### 4.0 NON-COMMON PERFORMANCE INDICATORS

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

##### 4.1 Legislation and Program Elements Required for Compatibility

###### 4.1.1 Legislation

North Dakota became an Agreement State in 1969. Along with their response to the questionnaire, the Branch provided the review team with the opportunity to review copies of legislation that affects the radiation control program. Legislative authority to create an agency and enter into an agreement with the NRC is granted in the North Dakota Century Code Chapter 23-20. The Department is designated as the State's radiation control agency. The review team noted that no legislation affecting the radiation control program was passed since being found adequate during the previous review, and found that the State legislation is adequate.

###### 4.1.2 Program Elements Required for Compatibility

The North Dakota Revised Radiological Health Rules, found in North Dakota Administrative Code Chapters 33-10-01 through 33-10-14, apply to all ionizing radiation, whether emitted from radionuclides or devices. North Dakota requires a license for possession and use of all radioactive material including naturally occurring materials, such as radium, and accelerator-produced radionuclides.

The review team examined the State's rulemaking process and found that the process takes approximately nine months after preparation of a draft rule. Proposed rules are submitted to the State Health Council for consideration and approval to proceed with public comment. Public notice of proposed rule revisions is made and a 60-day public comment period, including a public hearing is conducted. Proposed rules are sent to NRC for a compatibility ruling. After resolution of comments and the Attorney General's approval, final draft rules are sent to the State Health Council for final review and adoption. Final rules are sent to the NRC and to licensees. The State has the authority to issue legally binding requirements (e.g., license conditions) in lieu of regulations until compatible regulations become effective.

The review team evaluated North Dakota's responses to the questionnaire and reviewed the status of regulations under the Commission's adequacy and compatibility policy. All regulations required to be adopted are currently in effect. Discussions with program staff indicated a good awareness of recently adopted rules.

Based on IMPEP evaluation criteria, the review team recommended and the MRB agreed that North Dakota's performance with respect to the indicator, Legislation and Program Elements Required for Compatibility, was satisfactory.

#### 4.2 Low-Level Radioactive Waste (LLRW) Disposal Program

In 1981, the NRC amended its Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Authority and Assumption Thereof by States Through Agreement" to allow a State to seek an amendment for the regulation of LLRW as a separate category. Those States with existing Agreements prior to 1981 were determined to have continued LLRW disposal authority without the need of an amendment. Although North Dakota has such disposal authority, NRC has not required States to have a program for licensing a disposal facility until such time as the State has been designated as a host State for a LLRW disposal facility. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, they are expected to put in place a regulatory program which will meet the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in North Dakota. Accordingly, the review team did not evaluate this indicator.

#### 5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team and the MRB found North Dakota's performance to be satisfactory for all six performance indicators. Accordingly, the review team recommended and the MRB concurred in finding the North Dakota Agreement State program adequate to protect public health and safety and compatible with NRC's program. Based on the results of the current IMPEP review, it was agreed that the next full review should be in approximately four years. The review team made no recommendations.

#### GOOD PRACTICE:

The review team noted that North Dakota's procedures included a list of trained personnel in the State who would be willing to respond to a radiation incident, such as a transportation incident, and provide initial assessment of the incident or assist during the incident until State radiological emergency response personnel can arrive. The list includes the names of volunteers, their location within the State, the types of equipment they have available, and contact telephone numbers. The review team recommended and the MRB agreed that the use of such a cadre of responders is a good practice. (Section 3.5)

## LIST OF APPENDICES AND ATTACHMENTS

|            |   |
|------------|---|
| Appendix A | IMPEP Review Team Members   |
| Appendix B | North Dakota Organization Charts  |
| Appendix C | Inspection Casework Reviews   |
| Appendix D | License Casework Reviews  |
| Appendix E | Incident Casework Reviews   |
| Attachment | June 16, 2003 Letter from Terry L. O'Clair, P.E., Director<br>North Dakota's Response to Draft IMPEP Report |

## APPENDIX A

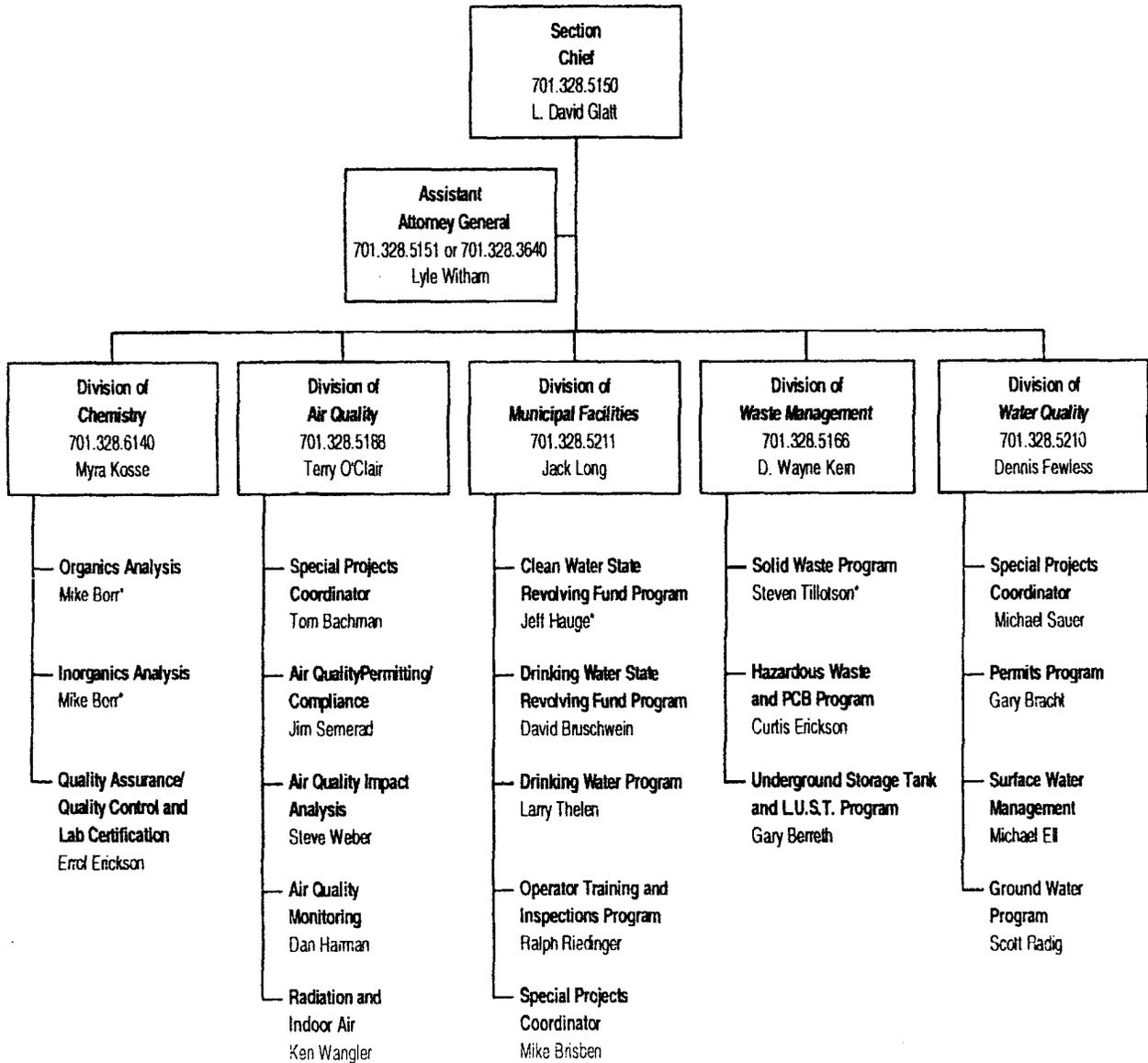
### IMPEP REVIEW TEAM MEMBERS

| <b>Name</b>          | <b>Area of Responsibility</b>  |
|----------------------|--|
| Lance Rakovan, STP   | Team Leader<br>Technical Staffing and Training<br>Legislation and Program Elements Required for<br>Compatibility |
| Vivian Campbell, RIV | Status of Materials Inspection Program<br>Technical Quality of Licensing Actions                                 |
| John Pelchat, RII    | Technical Quality of Inspections<br>Inspector Accompaniments   |
| Cathey Bradley, AR   | Response to Incidents and Allegations  |

APPENDIX B  
NORTH DAKOTA ORGANIZATION CHARTS

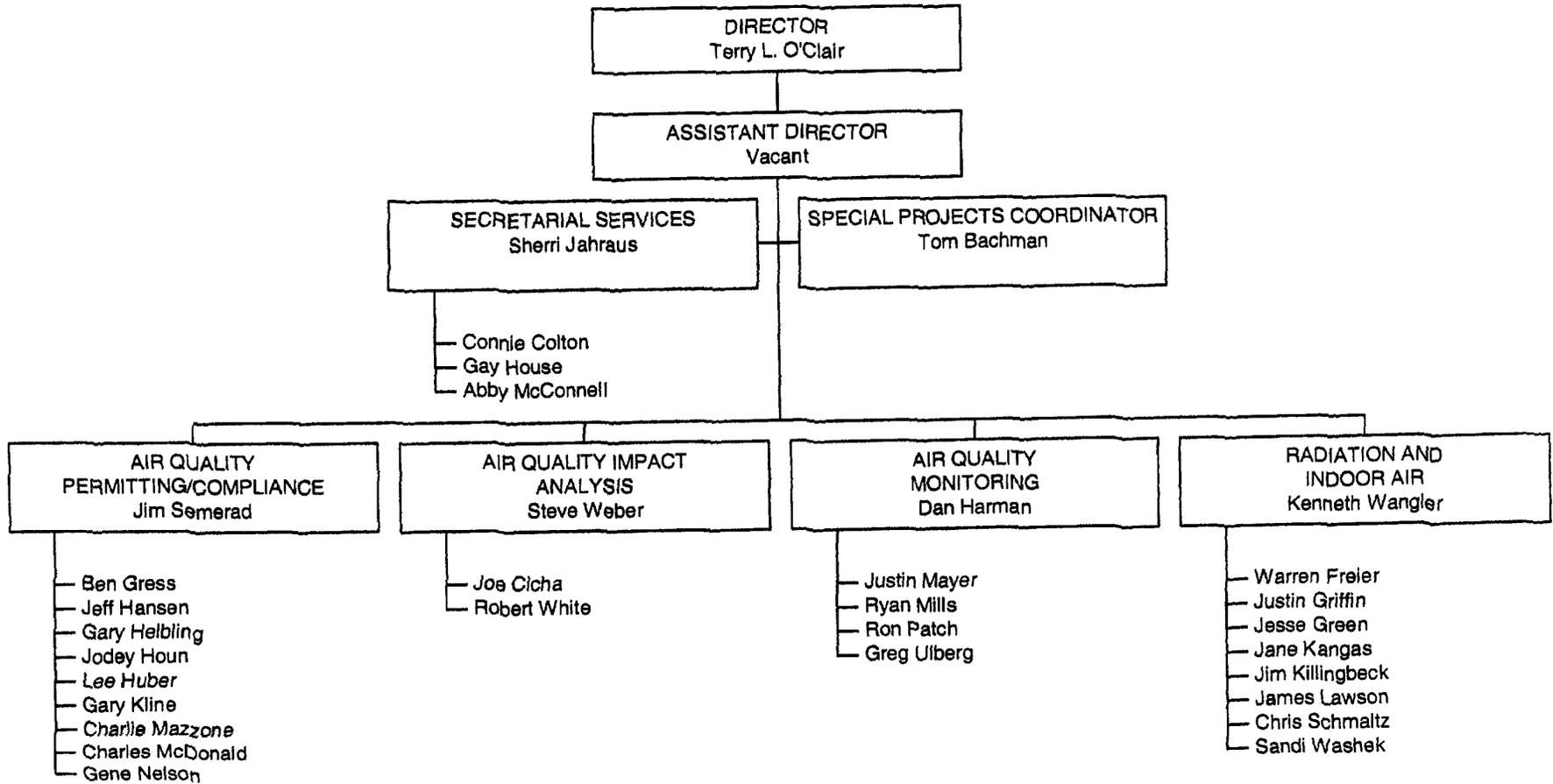
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# North Dakota Department of Health Environmental Health Section



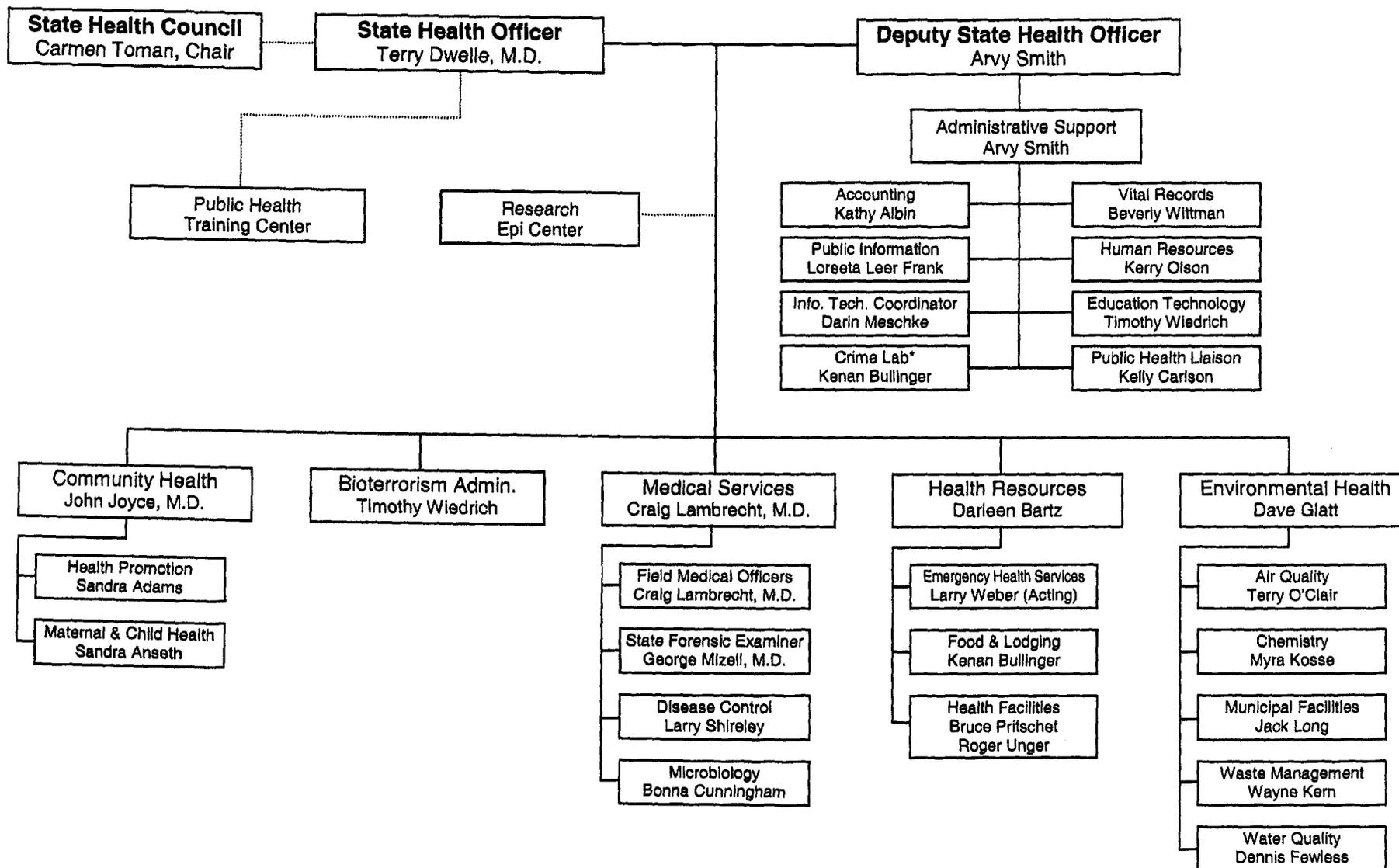
\*Assistant Director

NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY



# North Dakota Department of Health Organizational Chart

November 2002



\* Pending the outcome of the 2003 Legislative Session, the Crime Lab may be moved to the Attorney General's office.

## APPENDIX C

### INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1

Licensee: West River Regional Medical Center  
Location: Hettinger, ND  
License Type: Medical Institution - QMP required  
Inspection Date: 5/17-18/99

License No.: 33-08310-01  
Inspection Type: Routine, Unannounced  
Priority: 3  
Inspector: JK

File No.: 2

Licensee: X-Ray Inspection, Inc. (Lafayette, LA)  
Location: 3 Temporary Job Sites  
License Type: Industrial Radiography  
Inspection Date: 7/14/99

License No.: LA-2918-L01  
Inspection Type: Reciprocity, Unannounced  
Priority: N/A  
Inspector: JG, KW

File No.: 3

Licensee: Mayo Construction Company, Inc.  
Location: Cavalier, ND  
License Type: Portable Gauges  
Inspection Date: 9/1/99

License No.: 33-23415-01  
Inspection Type: Routine, Unannounced  
Priority: 3  
Inspector: JG

File No.: 4

Licensee: Halliburton Energy Services, Inc.  
Location: Williston, ND  
License Type: Portable Gauge  
Inspection Date: 11/15/99

License No.: 33-00502-02  
Inspection Type: Routine, Unannounced  
Priority: 4  
Inspector: JK

File No.: 5

Licensee: Materials Services Testing, Inc.  
Location: Minot, ND  
License Type: Portable Gauges  
Inspection Date: 3/28/00

License No.: 33-11311-01  
Inspection Type: Follow-up, Unannounced  
Priority: 4  
Inspector: JK

File No.: 6

Licensee: North Dakota State University  
Location: Fargo, ND  
License Type: Type A Broad Scope R & D  
Inspection Date: 4/25-27/00

License No.: 33-06769-06  
Inspection Type: Routine, Unannounced  
Priority: 2  
Inspector: JG, JK

File No.: 7

Licensee: MedCenter One Health Center  
Location: Bismarck, ND  
License Type: Medical Institution - QMP required  
Inspection Date: 2/12-14/01

License No.: 33-00043-05  
Inspection Type: Routine, Unannounced  
Priority: 3  
Inspector: JG, JK

File No.: 8

Licensee: Dakota Clinic and Innovis Health Systems

License No.: 33-02624-01

Location: Fargo, ND

Inspection Type: Follow-up, Unannounced

License Type: Medical Institution - QMP required

Priority: 3

Inspection Date: 2/25-27/02

Inspector: JG, JK

File No.: 9

Licensee: Madison Wireline Services, Inc.

License No.: 33-38608-01

Location: Williston, ND

Inspection Type: Initial, Announced

License Type: Well-logging

Priority: 3

Inspection Date: 12/2/02

Inspector: JK

File No.: 10

Licensee: T & K Inspections, Inc.

License No.: 33-22313-01

Location: Williston, ND & Temporary job site

Inspection Type: Routine, Unannounced

License Type: Industrial Radiography

Priority: 1

Inspection Date: 3/19/03

Inspector: JG

In addition, the following inspection accompaniments were performed as part of the on-site IMPEP review:

Accompaniment No.: 1

Licensee: C & J's Nondestructive Testing, Inc.

License No.: 33-35523-01

Location: Bismarck, ND

Inspection Type: Routine, Unannounced

License Type: Industrial Radiography

Priority: 1

Inspection Date: 3/17/03

Inspector: JK

Accompaniment No.: 2

Licensee: Saint Joseph's Hospital & Health Center

License No.: 33-01901-01

Location: Williston, ND

Inspection Type: Routine, Unannounced

License Type: Medical Institution - QMP required

Priority: 3

Inspection Date: 3/18/03

Inspector: JK, JG

Accompaniment No.: 3

Licensee: T & K Inspections, Inc.

License No.: 33-22313-01

Location: Williston, ND & Temporary job site

Inspection Type: Routine, Unannounced

License Type: Industrial Radiography

Priority: 1

Inspection Date: 3/19/03

Inspector: JG

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1  
Licensee: Madison Wireline Services, Inc.  
Location: Williston, ND  
License Type: Well logging, sealed source & tracer  
Date Issued: 6/5/02  
License No.: 33-38608-01  
Amendment: 0  
Type of Action: New  
License Reviewer: JK

File No.: 2  
Licensee: Trinity Health  
Location: Minot, ND  
License Type: Medical facility  
Date Issued: 7/29/02  
License No.: 33-04608-01  
Amendment: 16  
Type of Action: Amendment  
License Reviewer: JK

File No.: 3  
Licensee: Medcenter One Health Systems  
Location: Bismarck, ND  
License Type: Medical facility, brachytherapy  
Date Issued: 2/19/03  
License No.: 33-00043-05  
Amendment: 37  
Type of Action: Amendment  
License Reviewer: JG

File No.: 4  
Licensee: DMS Imaging, Inc.  
Location: Bemidji, MN  
License Type: Mobile nuclear medicine  
Date Issued: 7/20/00  
License No.: 33-11325-01  
Amendment: 35  
Type of Action: Renewal  
License Reviewer: JG

File No.: 5  
Licensee: DMS Imaging, Inc.  
Location: Bemidji, MN  
License Type: Mobile nuclear medicine  
Date Issued: 2/21/03  
License No.: 33-11325-01  
Amendment: 39  
Type of Action: Amendment  
License Reviewer: JG

File No.: 6  
Licensee: Halliburton Services  
Location: Duncan, OK  
License Type: Portable gauge  
Date Issued: 5/11/00  
License No.: 33-00502-02  
Amendment: 5  
Type of Action: Renewal  
License Reviewer: JK

File No.: 7  
Licensee: Altru Health System  
Location: Grand Forks, ND  
License Type: Medical facility, high dose-rate remote afterloader  
Date Issued: 10/14/02  
License No.: 33-01599-03  
Amendment: 57  
Type of Action: Amendment  
License Reviewer: JK

File No.: 8

Licensee: Material Testing Services, LLC  
Location: Minot, ND  
License Type: Moisture/Density gauge  
Date Issued: 12/4/00

License No.: 33-11311-01  
Amendment: 15  
Type of Action: Renewal  
License Reviewer: JK

File No.: 9

Licensee: Midwest Industrial X-Ray, Inc.  
Location: Fargo, ND  
License Type: Industrial Radiography  
Date Issued: 12/28/01

License No.: 33-14907-01  
Amendment: 12  
Type of Action: Amendment  
License Reviewer: JK

File No.: 10

Licensee: North Dakota State University  
Location: Fargo, ND  
License Type: Broad scope university  
Date Issued: 4/26/02

License No.: 33-06769-06  
Amendment: 38  
Type of Action: Amendment  
License Reviewer: JG

File No.: 11

Licensee: Dakota Geophysics  
Location: Napoleon, ND  
License Type: Well logging  
Date Issued: 1/15/03

License No.: 33-28628-01  
Amendment: 3  
Type of Action: Termination  
License Reviewer: JK

File No.: 12

Licensee: Missouri Valley Perforating, Inc.  
Location: Kenmare, ND  
License Type: Well logging  
Date Issued: 10/3/00

License No.: 33-14207-01  
Amendment: 05  
Type of Action: Termination  
License Reviewer: JG

## APPENDIX E

### INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT IS INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM.

File No.: 1

Licensee: Meritcare Health Systems  
Site of Incident: Fargo, ND  
Date of Incident: 11/21/02  
Investigation Date: 11/21/02

License No.: ND 33-14907-01  
Incident Log No.: N/A  
Type of Incident: Transportation  
Type of Investigation: Phone

File No.: 2

Licensee: Altru Hospital  
Site of Incident: Grand Forks, ND  
Date of Incident: 7/15/02-8/14/02  
Investigation Date: 11/16/02

License No.: ND 33-01599-03  
Incident Log No.: N/A  
Type of Incident: Overexposure  
Type of Investigation: Phone

File No.: 3

Licensee: Jamestown Hospital  
Site of Incident: Jamestown, ND  
Date of Incident: 9/4/02  
Investigation Date: 9/4/02

License No.: ND 33-05026-01  
Incident Log No.: N/A  
Type of Incident: Medical Event  
Type of Investigation: Phone

File No.: 4

Licensee: West River Regional Medical Center  
Site of Incident: Hettinger, ND  
Date of Incident: 8/14-15/02  
Investigation Date: 8/16/02

License No.: ND 33-08310-01  
Incident Log No.: N/A  
Type of Incident: Transportation  
Type of Investigation: Phone

File No.: 5

Licensee: Nova Chemical  
Site of Incident: Portal, ND  
Date of Incident: 6/11/01, 6/18/01  
Investigation Date: 6/11/01, 6/18/01

License No.: N/A  
Incident Log No.: N/A  
Type of Incident: Transportation  
Type of Investigation: Phone

File No.: 6

Licensee: St. Alexius Medical Center  
Site of Incident: Bismarck, ND  
Date of Incident: 7/13/99  
Investigation Date: 7/13/99

License No.: ND 33-11320-01  
Incident Log No.: NMED #990520  
Type of Incident: Medical Event  
Type of Investigation: Phone

File No.: 7

Licensee: St. Alexius Medical Center  
Site of Incident: Bismarck, ND  
Date of Incident: 7/27/01  
Investigation Date: 8/1/01

License No.: ND 33-11320-01  
Incident Log No.: NMED #010820  
Type of Incident: Medical Event  
Type of Investigation: Phone

North Dakota Final Report  
Incident Casework Reviews

Page E.2

File No.: 8

Licensee: Arrow-Tech, Inc.

Site of Incident: Rolla, ND

Date of Incident: 7/7/00

Investigation Date: 8/14/00

License No.: ND 33-16216-01

Incident Log No: N/A

Type of Incident: Faulty Equipment

Type of Investigation: Phone

File No.: 9

Licensee: Dakota Clinic, Ltd.(aka Innovis Health)

Site of Incident: Fargo, ND

Date of Incident: 8/2/02

Investigation Date: 8/2/02

License No.: ND 33-02604-01

Incident Log No.: N/A

Type of Incident: Transportation

Type of Investigation: Phone

**ATTACHMENT**

June 16, 2003 Letter from Terry L. O'Clair, P.E., Director  
North Dakota's Response to Draft IMPEP Report

ML031760166



NORTH DAKOTA DEPARTMENT OF HEALTH  
Environmental Health Section

Location:  
1200 Missouri Avenue  
Bismarck, ND 58504-5264

Fax #:  
701-328-5200

Mailing Address:  
P.O. Box 5520  
Bismarck, ND 58506-5520

June 16, 2003

Mr. Paul H. Lohaus  
Director  
Office of State Programs  
U.S. Nuclear Regulatory Commission  
20555-0001

03 JUN 24 AM 10:54  
STP

Dear Mr. Lohaus:

The North Dakota Department of Health (Department) has reviewed the U.S. Nuclear Regulatory Commission's (NRC) May 23, 2003 draft Integrated Materials Performance Evaluation Program (IMPEP) report of the Department's Radiation Control Program (RCP). The draft IMPEP report was sent under cover letter to Ms. Arvy Smith, Deputy State Health Officer for the North Dakota Department of Health. The IMPEP evaluation was held at the Department's office in Bismarck, North Dakota, April 22-25, 2003.

The Department has no comments or concerns with the draft report and agrees in principle with the findings of the IMPEP team. Department staff have identified several minor corrections and suggested wording changes. These have been marked directly on a copy of the draft report and sent as an enclosure to Mr. Lance Rakovan, the IMPEP team leader. The Department requests that Mr. Rakovan consider the staff's suggestions in preparing the final IMPEP report.

The Department will coordinate with Mr. Rakovan for the scheduling of the Management Review Board (MRB) conference. Since North Dakota has no significant issues with the findings of the IMPEP, North Dakota requests that MRB review be conducted via conference call. To minimize the set-up and coordination of the MRB conference, the Department would suggest the conference be conducted without video.

STP.006 *Yemplate*  
RIDS: SP01

Environmental Health  
Section Chief's Office  
701-328-5150

Air  
Quality  
701-328-5188

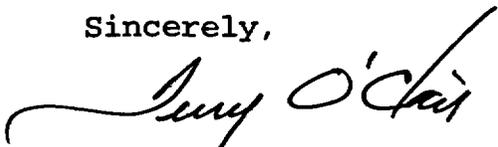
Municipal  
Facilities  
701-328-5211

Waste  
Management  
701-328-5166

Water  
Quality  
701-328-5210

If you have any questions or comments, please do not hesitate to contact myself or Mr. Ken Wangler of my staff at (701)328-5188.

Sincerely,



Terry L. O'Clair, P.E.  
Director  
Division of Air Quality

TLO/KWW:saj

Enc:

xc: L. David Glatt

xc: Arvy Smith, Deputy Health Officer

xc/enc: Lance Rakovan, NRC



**NORTH DAKOTA DEPARTMENT OF HEALTH**  
**Environmental Health Section**

**Location:**  
1200 Missouri Avenue  
Bismarck, ND 58504-5264

**Fax #:**  
701-328-5200

**Mailing Address:**  
P.O. Box 5520  
Bismarck, ND 58506-5520

April 2, 2003

Mr. Lance J. Rakovan  
IMPEP Team Leader  
U.S. Nuclear Regulatory Commission  
Office of State and Tribal Programs  
Washington, DC 20555-0001

Dear Mr. Rakovan:

Per your February 20, 2003 request you will find enclosed a completed integrated materials performance evaluation program (IMPEP) questionnaire for the State of North Dakota. This questionnaire is in preparation for the program's review the week of April 21, 2003. A copy of the questionnaire has also been e-mailed to you.

If you have any questions concerning the response, please call me at 701-328-5188.

Thank you.

Sincerely,

Kenneth W. Wangler, P.E.  
Manager  
Radiation Control Program  
Division of Air Quality

KWW:gsh  
Enc:

03 APR 15 AM 6:49

STP

Environmental Health  
Section Chief's Office  
701-328-5150

Air  
Quality  
701-328-5188

Municipal  
Facilities  
701-328-5211

Waste  
Management  
701-328-5166

Water  
Quality  
701-328-5210

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

QUESTIONNAIRE

North Dakota

Reporting Period: April 17, 1999 to April 25, 2003

**A. COMMON PERFORMANCE INDICATORS**

**I. Status of Materials Inspection Program**

1. Please prepare a table identifying the licenses with inspections that are overdue by more than 25% of the scheduled frequency set out in NRC Inspection Manual Chapter 2800. The list should include initial inspections that are overdue.

| <u>Licensee Name</u> | <u>Insp. Frequency<br/>(Years)</u> | <u>Due Date</u> | <u>Months O/D</u> |
|----------------------|------------------------------------|-----------------|-------------------|
|----------------------|------------------------------------|-----------------|-------------------|

Response: No inspections are overdue by more than 25%. Only one inspection has been more than 25 % overdue since November 1999. This inspection, which extended to 26% overdue, was one the Program was holding as a possible NRC oversight inspection in preparation for the IMPEP. The 25% overdue period ended on February 10, 2003. The Inspection was conducted on February 13, 2003. Since April 1999, All initial inspections have been conducted within 6 months of issuing a new radioactive material license unless operations involving RAM had not begun, in which case, the time may have been extended to one year. Concerning timeliness of responses to inspections, initial communication regarding inspection findings are done at the conclusion of an inspection during a close out meeting with licensee management. The RCP tries to deliver written findings of the inspection to the licensee within 30 days of completing an inspection. The timeliness for transmitting reports or inspection findings to licensees have not exceeded 30 days since April 1999.

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<sup>1</sup> Estimated burden per response to comply with this voluntary collection request: 53 hours. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0183), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

2. Do you currently have an action plan for completing overdue inspections? If so, please describe the plan or provide a written copy with your response to this questionnaire.

Response: Not Applicable

3. Please identify individual licensees or groups of licensees the State/Region is inspecting more or less frequently than called for in NRC Inspection Manual Chapter 2800 and state the reason for the change.

| NRC Code                                      | NRC inspection frequency | ND inspection frequency |
|---|--------------------------|-------------------------|
| 2201 medical private practice no QMP required | 5 years                  | 3 years                 |
| 2121 medical no QMP required                  | 5 years                  | 3 years                 |
| 3121 portable gauge                           | 5 years                  | 4 years                 |

North Dakota has not made a distinction in inspection frequency for medical licensees with written directives required versus no written directives required. North Dakota feels portable gauges represent a greater hazard and risk than stationary gauges, hence the lower inspection frequency for portable gauges.

4. Please complete the following table for licensees granted reciprocity during the reporting period.

| Priority  | Number of Licensees Granted Reciprocity Permits Each Year | Number of Licensees Inspected Each Year       |
|---|---|---|
| Service Licensees performing teletherapy and irradiator source installations or changes | YR99 0<br>YR00 0<br>YR01 0<br>YR02 0                      | YR99 0<br>YR00 0<br>YR01 0<br>YR02 0          |
| 1   | YR99 5<br>YR00 3<br>YR01 3<br>YR02 0                      | YR99 1+1ATTEMPT<br>YR00 3<br>YR01 1<br>YR02 0 |
| 2   | YR99 0<br>YR00 0<br>YR01 0<br>YR02 0                      | YR99 0<br>YR00 0<br>YR01 0<br>YR02 0          |
| 3   | YR99 0<br>YR00 5<br>YR01 4<br>YR02 6                      | YR99 0<br>YR00 3<br>YR01 0<br>YR02 2          |

| Priority  | Number of Licensees<br>Granted Reciprocity<br>Permits Each Year | Number of Licensees<br>Inspected Each Year |
|-----------|---|--|
| 4         | 21  | 5  |
| All Other |   |  |

5. For NRC Regions, did you establish numerical goals for the number of inspections to be performed during this review period? If so, please describe your goals, the number of inspections actually performed, and the reasons for any differences between the goals and the actual number of inspections performed.

II. Technical Quality of Inspections

6. What, if any, changes were made to your written inspection procedures during the reporting period?

Response: North Dakota has updated its inspection procedures since April 1999. The changes were not significant. Amendments were made to make the procedures more complete, to more accurately reflect the procedures followed by the RCP and to make the RCP inspection procedures more closely align with those of the NRC in IMC 2800 12/1/00. In vitro laboratory use inspection priority was changed from 4 to 5. Instrument calibration service only was added as an inspection priority 3. Inspection report forms now need to be updated to accurately assess the new rule changes adopted 3/1/03.

7. Prepare a table showing the number and types of supervisory accompaniments made during the review period. Include:

| <u>Inspector</u> | <u>Supervisor</u> | <u>License Cat.</u> | <u>Date</u> |
|------------------|-------------------|---------------------|-------------|
|------------------|-------------------|---------------------|-------------|

Response: See attached table for inspection accompaniments

8. Describe internal procedures for conducting supervisory accompaniments of inspectors in the field.

Response: North Dakota's RCP Administrative Procedures Manual section III. E. states, approximately 10% of all field inspections include the Radiation Control Program Manager or Division Director accompaniment of the inspector. 132 inspections have been conducted during this review period. Management has accompanied on 18 of the inspections. There is no specific documentation of the accompaniment other than the appropriate notation made on the inspection report. Copies of the inspection reports are not enclosed with this questionnaire.

9. Describe or provide an update on your instrumentation and methods of calibration. Are all instruments properly calibrated at the present time? Were there sufficient calibrated instruments available through the review period?

Response: All program instrumentation is calibrated annually. The attached list identifies all the RCP measurement equipment, however not all instruments listed in attachment are kept in calibration. All meters used for inspections and those which are considered essential for emergency response are calibrated semi annually. This is in line with the RCP Administrative Policy Manual section XIV.

The calibrations are conducted by Department staff using a Gammatron calibrator equipped with a 30 millicurie cesium-137 source. The calibrations are done at the Department's east laboratory in the upper floor penthouse. The meters are calibrated at two points located approximately 1/3 and 2/3 of full scale on each meter for linear scale instruments; and at midrange at each decade and at two points of at least one decade for logarithmic scale instruments; and at appropriate points for digital instruments.

III. Technical Staffing and Training

10. Please provide a staffing plan, or complete a listing using the suggested format below, of the professional (technical) person-years of effort applied to the agreement or radioactive material program by individual. Include the name, position, and, for Agreement States, the fraction of time spent in the following areas: administration, materials licensing & compliance, emergency response, LLW, U-mills, other. If these regulatory responsibilities are divided between offices, the table should be consolidated to include all personnel contributing to the radioactive materials program. Include all vacancies and identify all senior personnel assigned to monitor work of junior personnel. If consultants were used to carry out the program's radioactive materials responsibilities, include their efforts. The table heading should be:

Response:

NORTH DAKOTA RCP PERSONNEL EFFORT

| <u>NAME</u>    | <u>POSITION</u>      | <u>AREA OF EFFORT</u>  | <u>FTE%</u>             |
|----------------|----------------------|--|-------------------------|
| T. O'Clair     | Division<br>Director | RAM Admin./<br>Supervision of Program  | 5%                      |
| K. Wangler     | RCP<br>Manager       | RAM Supervision/Admin.<br>RAM Licensing/Compliance<br>RAM Emergency Response | 15%<br>15%<br>5%        |
| J. Killingbeck | Env. Sci. III        | RAM Licensing<br>RAM Inspection<br>Correspondence<br>Emergency Response      | 37%<br>40%<br>20%<br>3% |

|              |              |                      |                    |
|--------------|--------------|----------------------|--------------------|
| J. Griffin   | Env. Eng. II | Licensing            | 35%                |
|              |              | Inspection           | 40%                |
|              |              | Correspondence       | 20%                |
|              |              | Emergency Response   | 5%                 |
| Secretarial* |              |                      | 0.21 FTE           |
|              |              | <b>Total RAM FTE</b> | <b><u>2.61</u></b> |

64 specific licensees = 4.08 persons per 100 licenses

\*Total available Division Secretarial resource is 3.5 FTE. Secretarial support for the Branch is 40% of Division. Radioactive Materials is 15% of Branch effort. Total Secretarial effort for Branch is  $3.5 \times 0.40 \times 0.15 = 0.21\text{FTE}$ .

11. Please provide a listing of all new professional personnel hired since the last review, indicate the degree(s) they received, if applicable, and additional training and years of experience in health physics, or other disciplines, if appropriate.

Response: No new personnel have been hired since the last review

12. Please list all professional staff who have not yet met the qualification requirements of license reviewer/materials inspection staff (for NRC, Inspection Manual Chapters 1246; for Agreement States, please describe your qualifications requirements for materials license reviewers and inspectors). For each, list the courses or equivalent training/experience they need to attend and a tentative schedule for completion of these requirements.

Response: See Attachment. Jim Killingbeck has completed all the core training requirements. Justin Griffin has not completed the core training requirements for RAM licensing and inspection. Several requests have been made for Justin to attend the Teletherapy & Brachytherapy (H-313) on space available but the requests have not been granted. The RCP will continue to evaluate the feasibility of obtaining the Teletherapy & Brachytherapy course on space available and may choose to pay for the class at some future date. Justin has registered with Lake Shore College to take health physics courses equivalent to Health Physics Technology (H-201). This training will be completed during the next several semesters. No other training for Ken is planned at this time.

13. Please identify the technical staff who left the RCP/Regional DNMS program during this period.

Response: No technical staff have left the RCP during this period.

14. List the vacant positions in each program, the length of time each position has been vacant, and a brief summary of efforts to fill the vacancy.

Response: There are no vacant positions in the RCP at this time.

**IV. Technical Quality of Licensing Actions**

15. Please identify any major, unusual, or complex licenses which were issued, received a major amendment, were terminated, decommissioned, submitted a bankruptcy notification or renewed in this period. Also identify any new or amended licenses that now require emergency plans.

Response: There were no license activities meeting these conditions during the review period.

16. Discuss any variances in licensing policies and procedures or exemptions from the regulations granted during the review period.

Response: There were no license policy and procedure variances or exemptions from the regulation granted during the review period.

17. What, if any, changes were made in your written licensing procedures (new procedures, updates, policy memoranda, etc.) during the reporting period?

Response: North Dakota updated its licensing policies since April 1999. The changes were not significant. Amendments were made to make the procedures more complete, to more accurately reflect the procedures followed by the RCP.

18. For NRC Regions, identify by licensee name, license number and type, any renewal applications that have been pending for one year or more. Please indicate why these reviews have been delayed.

Response: North Dakota's licensing policy targets 45 days as the maximum amount of time for responding to licensing correspondence. North Dakota's RCP has met this time frame on all license activities since February 2000.

**V. Responses to Incidents and Allegations**

19. For Agreement States, please provide a list of the reportable incidents (i.e., medical misadministration, overexposures, lost and abandoned sources, incidents requiring 24 hour or less notification, etc. See Handbook on Nuclear Material Event Reporting in Agreement States for additional guidance.) that occurred during the review period. Information included in previous submittals to NRC need not be repeated (i.e., those submitted under OMB clearance number 3150-0178, Nuclear Material Events Database).

Response: All reportable incidents have been reported using NMED

20. During this review period, did any incidents occur that involved equipment or source failure or approved operating procedures that were deficient? If so, how and when were other State/NRC licensees who might be affected notified? For States, was timely notification made to NRC? For Regions, was an appropriate and timely PN generated?

Response: No incidents occurred during this review period that involved equipment or source failure or approved operating procedures that were deficient.

21. For Agreement States, for incidents involving failure of equipment or sources, was information on the incident provided to the agency responsible for evaluation of the device for an assessment of possible generic design deficiency? Please provide details for each case.

N/A

22. Identify any changes to your procedures for handling allegations that occurred during the period of this review.

Response: No changes occurred to our procedures for handling allegations during this review period.

#### VI. General

23. Please prepare a summary of the status of the State's or Region's actions taken in response to the comments and recommendations following the last review. Describe the results of any program audits completed during the review period.

Response: No complete program audits were conducted during the review period. As noted in a January 4, 2002 letter from Vivian Campbell of NRC Region 4 following a 12/12/01 periodic review, "While the State does not conduct formal audits or self-assessments, Program management and staff maintain a continuous awareness of the status of the program using the computerized tracking system. Program management accompanies staff on 10 % of the inspections performed and reviews 100% of the licenses issued." As demonstrated by the summary of the information contained in the responses to this questionnaire, inspection and licensing frequencies and timeliness have been maintained within the Program guidelines during the review period and management inspection accompaniments have exceeded 10 %.

There were 5 recommendations from the 1999 IMPEP. They are itemized below followed by a summary of the status of the State's actions taken in response to the recommendations:

Recommendation 1: The review team recommends that the RCP management devote additional attention to a "pro-active" review of the current inspection tracking systems, and adjust staff priorities accordingly to ensure core licensees are inspected at the required intervals.

Status: Since the 1999 IMPEP, this recommendation was evaluated by NRC during a one year follow-up conducted on July 12, 2000. In an October 10, 2000 letter, NRC states, "Program management appropriately adjusted staff priorities which resulted in a zero backlog inspection program. The computerized tracking system is being used to ensure that managers are fully aware of the inspection program status. . . the team considers this recommendation closed." In all but one instance, the Program has maintained this status of ensuring core licensees were

inspected at required intervals during this entire review period. Only one inspection has been more than 25 % overdue since November 1999. This inspection, which extended to 26% overdue, was one the Program was holding as a possible NRC oversight inspection in preparation for the IMPEP. The 25% overdue period ended on February 10, 2003. The inspection was conducted on February 13, 2003. Since April 1999, All initial inspections have been conducted within 6 months of issuing a new radioactive material license unless operations involving RAM had not begun, in which case, the time may have been extended to one year.

**Recommendation 2:** The review team recommends that RCP continue their efforts to complete inspections of high priority reciprocity licensees in accordance with IMC 1220.

**Status:** Since the 1999 IMPEP, this recommendation was evaluated by NRC during the one year follow-up conducted on July 12, 2000. In an October 10, 2000 letter, NRC states in part, ". . . RCP has demonstrated its commitment to resolve the reciprocity inspection issue. . . the team considers this recommendation closed." The Program has continued to emphasize reciprocity inspections but has not been able to meet the aggressive inspection frequency of its own inspection policy. The program has maintained the status of completing inspections of high priority reciprocity licensees in accordance with inspection frequency guidelines of current IMC 1220. IMC 1220 requests 20 % of priority 1,2 & 3 licensees be inspected annually, and all other priority licensees be inspected each year as resources allow. The program's inspection manual has recently been changed to be the same as IMC1220.

**Recommendation 3:** The review team recommends that RCP management continue to provide additional oversight to ensure inspections findings (letters of apparent non compliance) are communicated to licensees in a timely manner, and that licensee responses are evaluated promptly upon their receipt by RCP.

**Status** Since the 1999 IMPEP, this recommendation was evaluated by NRC during the one year follow-up conducted on July 12, 2000. In an October 10, 2000 letter, NRC states in part, ". . . Inspections findings are now communicated to licensees in a timely manner and licensees are promptly reviewed. . . the team considers this recommendation closed." The Program has continued to emphasize the importance of communicating inspection findings and followup correspondence to licensees in a timely manner. Since the 1999 IMPEP, no inspection findings or followup communications to licensees regarding inspection findings have gone past the 30 day timeliness goal contained in the RCP inspection manual, unless extenuating circumstances prevented or delayed the communicate. The 30 day timeliness goal is consistent with NRC's IMC 0610.

**Recommendation 4:** The review team recommends that management perform an in-depth review to the RCP's current and future anticipated activities and obligations to ensure budgeted staffing levels are adequate to fulfill the responsibilities of the program.

**Status:** Since the 1999 IMPEP, this recommendation was evaluated by NRC during a periodic meeting held on December 12, 2001. In an January 4, 2002 letter, NRC states in part, " The Program management reviewed the staffing levels for the program and determined that the current staffing level for licensing and inspection is appropriate for their program. . . ". Since that review, the technical staff and the number of licensees has remained relatively constant. Due to

the small size of the program, upsets in staffing or non-routine incidents which require significant staff effort can have a noticeable negative impact on the program's ability to complete its responsibilities. Management does not feel it is necessary nor are resources available to staff for unusual occurrences. Management continues to believe the current staffing level for licensing and inspection is appropriate for the program.

Recommendation 5: The review team recommends that the State provide training to technical personnel, either by formal course work or equivalent, in the area of brachytherapy.

Status Since the 1999 IMPEP, this recommendation was evaluated by NRC during a periodic meeting held on December 12, 2001. In an January 4, 2002 letter, NRC states in part, "One staff member successfully completed NRC's teletherapy/brachytherapy course in August, 1999". The Program has tried several times to get the other staff member into the teletherapy/brachytherapy course on a 'space-available' status. These attempts have been unsuccessful. The Program continues to seek a space available slot and is considering reserving a paid seat in an upcoming class.

24. For NRC Regions, briefly describe any recent efforts, or future plans, on your part to: (1) improve the safety performance of licensees operating below acceptable levels for ensuring public health and protection, (2) increase the public confidence in your program, (3) increase your effectiveness, and efficiency, or (4) reduce any unnecessary regulatory burden for your stakeholders.
25. Provide a brief description of your program's strengths and weaknesses. These strengths and weaknesses should be supported by examples of successes, problems or difficulties which occurred during this review period.

Response: The RCP has good intra program communication on issues affecting licensees. This is enhanced by the small number of program staff whose offices are located in close proximity to each other. Also because of the small staff size, every member is involved in all aspects of the RCP. Each staff is involved in licensing, inspection, rule revision, rule interpretation and correspondence with various types of licensees.

The North Dakota Department of Health, in general, has good interdepartmental communication. The program manager has easy and ready access to managers all the way to the level of the State Health Officer and ready access to the Assistant Attorney General assigned to the Environmental Health Section.

The technical capabilities of the program are good. All staff have recently upgraded computers and software. Management support for computer training, easy access to the Internet, strong clerical support, as well as, technical support on radiation safety issues from the machine generated radiation program help the program in carrying out its responsibilities.

Because of staff familiarity with licensees, good working relationships have been established with the regulated community such that the program is often able to

obtain compliance without elevated enforcement action. The relationship also puts the program at ease with making recommendations to licensees in addition to required corrective actions, following an inspection.

The recent rule revisions make the North Dakota Radiological Health Rules compatible with 10 CFR well into 2004.

The Program is an integral part of the State radiological emergency response team.

Training of technical staff is an unfulfilled need for the Program. Space available is still being sought for the teletherapy/brachytherapy course. Alternative training has begun to acquire training equivalent to the 5-week health physics course.

There is a down side to small program size. Because of the small program size, staff have not been able to participate in national working groups and policy making activities because of the large percentage of time represented when one staff member is taken from the program for activities outside of the scope of radioactive material licensing and inspection. Because of small staff size, the program has also been unable to move into radiation safety areas which are in need of attention such as the control of natural occurring radioactive material that is technically enhanced during oilfield exploration and production activities. The rule revision process also requires a significant percentage of staff commitment which detracts from the timely completion of licensing and inspection activity.

## **B. NON-COMMON PERFORMANCE INDICATORS**

### **I. Legislation and Program Elements Required for Compatibility**

26. Please list all currently effective legislation that affects the radiation control program (RCP).

Response: No legislative changes have occurred or are proposed which would affect the Program's ability to carry out its responsibilities. The statutes are North Dakota Century Code (NDCC) 23-20, 23-20.1 and 23-20.2

27. Are your regulations subject to a "Sunset" or equivalent law? If so, explain and include the next expiration date for your regulations.

Response: The North Dakota Radiological Health Rules are not subject to a sunset or equivalent clause.

28. Please complete the enclosed table based on NRC chronology of amendments. Identify those that have not been adopted by the State as detailed in the current RATS form, explain why they were not adopted, and discuss any actions being taken to adopt them. Identify the regulations that the State has adopted through legally binding requirements other than regulations.

**Response:** See completed table. North Dakota has adopted all regulations on the enclosed table that are relevant to its program.

29. If you have not adopted all amendments within three years from the date of NRC rule promulgation, briefly describe your State's procedures for amending regulations in order to maintain compatibility with the NRC, showing the normal length of time anticipated to complete each step.

**Response:** Some of the regulations that became effective during this review period were not adopted within the three year period. There were various reasons for the delay of the rule revision including incorporation of a substantial change in the x-ray operator training requirements and a train derailment and ammonia spill in January 2002 that required a significant amount of the program manager's time. At the present time all required rules are adopted. The rule amendment / adoption process is generally a 9 to 11 month process.

II. North Dakota does not have a Sealed Source and Device, Low-Level Waste or Uranium Mill Program.

TABLE FOR QUESTION 28.

| 10 CFR RULE  | DATE DUE | DATE ADOPTED OR EFFECTIVE | OR  |                   |
|--|----------|---------------------------|---|-------------------|
|  |          |                           | CURRENT STATUS  | EXPECTED ADOPTION |
| Any amendment due prior to 1993. Identify each regulation (refer to the Chronology of Amendments)                  |          |                           | All rules required prior to this time have been adopted by the state  |                   |
| Emergency Planning; Parts 30, 40, 70   | 4/7/93   | 3/1/94                    |   |                   |
| Standards for Protection Against Radiation; Part 20  | 1/1/94   | 3/1/94                    |   |                   |
| Safety Requirements for Radiographic Equipment; Part 34  | 1/10/94  | 3/1/94                    |   |                   |
| Notification of Incidents; Parts 20, 30, 31, 34, 39, 40, 70  | 10/15/94 | 3/1/94                    |   |                   |
| Quality Management Program and Misadministrations; Part 35   | 1/27/95  | 3/1/94                    |   |                   |
| Licensing and Radiation Safety Requirements for Irradiators; Part 36   | 7/1/96   | 7/1/95                    |   |                   |
| Definition of Land Disposal and Waste Site QA Program; Part 61   | 7/22/96  | N/A                       | North Dakota does not intend to adopt the requirements for Land Disposal and Waste Site QA programs, nor the Uranium Mill Tailings: Conforming to EPA Standards since neither of these requirements are applicable to operations in North Dakota. |                   |
| Decommissioning Recordkeeping; Documentation Additions; Parts 30, 40, 70   | 10/25/96 | 7/1/95                    |   |                   |
| Uranium Mill Tailings: Conforming to EPA Standards; Part 40  | 7/1/97   | N/A                       | North Dakota does not intend to adopt the requirements for Land Disposal and Waste Site QA programs, nor the Uranium Mill Tailings: Conforming to EPA Standards since neither of these requirements are applicable to operations in North Dakota. |                   |
| Timeliness in Decommissioning  | 8/15/97  | 7/1/95                    |   |                   |
| Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use; Parts 30, 32, 35 | 1/1/98   | 5/1/98                    |   |                   |

| 10 CFR RULE   | DATE DUE  | DATE ADOPTED OR EFFECTIVE | OR             |                   |
|---|-----------|---------------------------|----------------|-------------------|
|   |           |                           | CURRENT STATUS | EXPECTED ADOPTION |
| Frequency of Medical Examinations for Use of Respiratory Protection Equipment   | 3/13/98   | 5/1/98                    |                |                   |
| Low-Level Waste Shipment Manifest Information and Reporting   | 3/1/98    | 5/1/98                    |                |                   |
| Performance Requirements for Radiography Equipment  | 6/30/98   | 5/1/98                    |                |                   |
| Radiation Protection Requirements: Amended Definitions and Criteria   | 8/14/98   | 5/1/98                    |                |                   |
| Medical Administration of Radiation and Radioactive Materials.  | 10/20/98  | 5/1/98                    |                |                   |
| Clarification of Decommissioning Funding Requirements   | 11/24/98  | 5/1/98                    |                |                   |
| 10 CFR Part 71: Compatibility with the International Atomic Energy Agency   | 4/1/99    | 5/1/98                    |                |                   |
| Termination or Transfer of Licensed Activities: Recordkeeping Requirements.   | 6/16/99   | 5/1/98                    |                |                   |
| Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act                             | 1/9/2000  | 5/1/98                    |                |                   |
| Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State         | 2/27/2000 | 3/1/03                    |                |                   |
| Criteria for the Release of Individuals Administered Radioactive Material   | 5/29/2000 | 5/1/98                    |                |                   |
| Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiography Operations; Final Rule | 6/27/2000 | 3/1/03                    |                |                   |
| Radiological Criteria for License Termination   | 8/20/2000 | 3/1/03                    |                |                   |
| Exempt Distribution of a Radioactive Drug Containing One Microcurie of Carbon-14 Urea                                   | 1/2/2001  | 3/1/03                    |                |                   |

| 10 CFR RULE   | DATE DUE   | DATE ADOPTED OR EFFECTIVE | OR             |                   |
|---|------------|---------------------------|----------------|-------------------|
|   |            |                           | CURRENT STATUS | EXPECTED ADOPTION |
| Deliberate Misconduct by Unlicensed Persons   | 2/12/2001  | 3/1/03                    |                |                   |
| Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations; Clarifying Amendments and Corrections | 7/9/2001   | 3/1/03                    |                |                   |
| Minor Corrections, Clarifying Changes, and a Minor Policy Change  | 10/26/2001 | 3/1/03                    |                |                   |
| Transfer for Disposal and Manifest; Minor Technical Conforming Amendments   | 11/20/2001 | 3/1/03                    |                |                   |
| Radiological Criteria for License Termination of Uranium Recovery Facilities  | 6/11/2002  | 3/1/03                    |                |                   |
| Respiratory Protection and Controls to Restrict Internal Exposures  | 2/2/2003   | 3/1/03                    |                |                   |
| Energy Compensation Sources for Well Logging and Other Regulatory Clarifications  | 5/17/03    | 3/1/03                    |                |                   |
| New Dosimetry Technology  | 1/8/04     | 3/1/03                    |                |                   |
| Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material  | 2/16/04    | 3/1/03                    |                |                   |
| Revision of the Skin Dose Limit   | 4/5/05     | 3/1/03                    |                |                   |
| Medical Use of Byproduct Material   | 4/24/05    | 3/1/03                    |                |                   |

Supervisory inspector accompaniments ND Radiation Control 4/99 - 4/03

| Supervisor  | Inspector                          | Licensee   | NRC Category | Inspect priority | Date       |
|-------------|------------------------------------|--|--------------|------------------|------------|
| Ken wangler | Justin Griffin                     | Schlumberger well Logging  | 3110         | 3                | 7/13/99    |
| Ken wangler | Justin Griffin                     | Halliburton well Logging Building closeout                           | 3110         | 3                | 7/14/99    |
| Ken wangler | Justin Griffin                     | Penkota Well Logging   | 3110         | 3                | 7/14/99    |
| Ken wangler | Justin Griffin                     | X-Ray Inspection Inc.  | 3320         | 1                | 7/14/99    |
| Ken wangler | Justin Griffin                     | Unimed Medical Center @ Minot (Allegations)                          | 2120         | 3                | 8/26/99    |
| Ken wangler | Justin Griffin                     | Materials Testing Inc. @ Minot (port. gauge)                         | 3121         | 5                | 8/26/99    |
| Ken wangler | Justin Griffin                     | QMAS close-out inspection and transfer of generally licensed devices | 2410         | 5                | 4/10/00    |
| Ken wangler | Justin Griffin                     | Mayo construction nonroutine inspection                              | 3121         | 5                | 4/11-12/00 |
| Ken wangler | Justin Griffin/<br>Jim Killingbeck | NDSU   | 1100         | 2                | 4/25-27/00 |
| Ken wangler | Justin Griffin/<br>Jim Killingbeck | Sure Way waste autoclave   | 3124         | 7                | 4/27/00    |
| Ken wangler | Justin Griffin                     | Superior Production Logging  | 3110         | 3                | 7/24/00    |
| Ken wangler | Jim Killingbeck                    | United Blood / J.L. Shepherd @ Bismarck                              | 3510         | 5                | 11/9/00    |
| Ken wangler | Jim Killingbeck                    | C & J NDT, Inc.  | 3320         | 1                | 1/26/01    |
| Ken wangler | Justin Griffin                     | Sure Way Systems   | 3124         | 7                | 5/14/01    |
| Ken wangler | Jim Killingbeck                    | Materials Testing Inc.   | 3121         | 5                | 1/8/02     |
| Ken wangler | Jim Killingbeck                    | Meritcare  | 2120         | 5                | 8/6/02     |
| Ken wangler | Jim Killingbeck<br>/Justin Griffin | NDSU   | 1100         | 2                | 9/10/02    |
| Ken wangler | Jim Killingbeck<br>/Justin Griffin | UND  | 1100         | 2                | 12/02      |

INSTRUMENTS

| NORTH DAKOTA DEPARTMENT OF HEALTH list of survey meters Supplement to IMPEP Questionnaire Question # 9 |  |                                     |    |                 |                    |  |                        |  |  | Health Dept. ID Number |
|--|--|-------------------------------------|----|-----------------|--------------------|--|------------------------|--|--|------------------------|
| Manufacturer   | Instrument   | Type                                | Yr | Model           | S/N                | Range                                    |                        |  |  |                        |
| Ludlum   | Micro R Meter                                      | Scintillation                       | 83 | 12S             | 25098              | 0-3 uR/hr (X1, X10, X100, X1000)         |                        |  |  | H15111                 |
| Ludlum   | Micro R Meter                                      | Scintillation                       | 89 |                 | 19                 | 0-50 uR/hr (X1, X10, X100, X1000)        |                        |  |  | H15193                 |
| Ludlum   | Alpha AirProportional Counter                      | Scintillation                       | 86 |                 | 61                 | 0-2000 CPM (X1, X10, X100, X1000)        |                        |  |  |                        |
| Ludlum   | Geiger Counter                                     | G-M                                 | 89 |                 | 5                  | 0-2 mR/hr (X1, X10, X100, X1000)         |                        |  |  |                        |
| Ludlum   | Geiger Counter                                     | G-M                                 | 89 |                 | 5                  | 0-2 mR/hr (X1, X10, X100, X1000)         |                        |  |  |                        |
| Ludlum   | Ion Chamber  | Ionization                          | 89 |                 | 9                  | 0-5 mR/hr (X1, X10, X100, X1000)         |                        |  |  |                        |
| Ludlum   | Ion Chamber  | Ionization                          | 89 |                 | 9                  | 0-5 mR/hr (X1, X10, X100, X1000)         |                        |  |  |                        |
| Eberline   | Scaler/Ratemeter                                   | *Probe Dependent*GM-Side Window     | 89 | ESP2HP-270HP-2  | 8 29708E+24        | Selectable (CPM) for Each Probe          |                        |  |  | H16532                 |
| Eberline   | Scaler/Ratemeter                                   | *Probe Dependent*GM-Side Window     | 89 | ESP2HP-270HP-2  | 8 30708E+24        | Selectable (CPM) for Each Probe          |                        |  |  | H16480                 |
| Ludlum   | Scaler/Ratemeter                                   | *Probe Dependent Beta Scintillation | 89 | 222144-144-743- | 685410579320579330 | 0-500 cpm/50-500,000 CPM (X1, X10, X100) |                        |  |  |                        |
| Bicron   | Detector Probe                                     | 3x3 NaI                             | 87 | 3m3/3           | FB-975             | 4000000 Counts/mr/hr                     |                        |  |  |                        |
| CanberraSeries 10  | Multichannel Analyzer                              | *Probe Dependent 3x3 NaI            | 87 | 06-502          | 1104 18766-687     | 1 millirem to 999 millirem               |                        |  |  | H15110                 |
| Victoreen  | VIP Personnel Dosimeter                            | GM                                  |    |                 |                    | 1.97592E+14                              |                        |  |  |                        |
| Atomic Products Corp.  | Pocket Dosimeter                                   | Ion Chamber                         |    |                 | 862                | 2.03221E+27                              |                        |  |  |                        |
| Victoreen  | Dosimeter Charger                                  |                                     |    |                 |                    | 12332                                    |                        |  |  |                        |
| Bendix   | Dosimeter Charger                                  |                                     |    |                 |                    | 34811                                    |                        |  |  |                        |
| Physics International  | (meter inoperable and discarded)                   |                                     |    |                 |                    |  |                        |  |  |                        |
| Ludlum   | Model 19 1R  | Neutron Probe                       |    |                 | 1220 N-107         |  |                        |  |  | HD3503                 |
| Ludlum   | Area Monitor/Alarm/Ratemeter/Probe/End Win MeterGM | Scintillator                        |    |                 | 19                 | 42962                                    |                        |  |  | DEM 0096               |
| Ludlum   | Count Ratemeter/Probe-Pancake GM                   | MeterGM ProbeAlpha Probe            |    |                 | 177-1044-7         | 74775PRO19233                            | 0-500,000 cpm          |  |  | DEM 0163               |
| Ludlum   | Count Ratemeter                                    | MeterGM Probe                       |    |                 | 1244-943-44        | 45244PRO315173890                        | 0-5 mr/hr              |  |  | DEM 0099               |
| Ludlum   | Pulsar   | MeterGM Probe                       |    |                 | 1244-9             | 44519PRO31516                            | 0-5 mr/hr              |  |  | DEM 0126               |
| Victoreen  | Pressurized Ion Chamber                            | Pressurized Ion Chamber             | 97 | 450P            | 500                | 50797                                    |                        |  |  |                        |
| Arrow-Tech   | Pocket Dosimeter                                   | Ion Chamber                         | 98 |                 |                    | 3014                                     | 0-500uR/hr to 0-50R/hr |  |  |                        |
| Arrow-Tech   | Dosimeter Charger                                  |                                     | 98 |                 |                    | 017329, and 017328                       | 0-200 millirem         |  |  |                        |
| Invision   | Pressurized Ion Chamber                            | Pressurized Ion Chamber             | 98 | CDV-700 Model 6 | A000017            | 6653 0 to 5R/hr                          |                        |  |  | H18436                 |
|  |  |                                     | 2  | 415P            |                    |  |                        |  |  |                        |

**NORTH DAKOTA RADIATION CONTROL PROGRAM PERSONNEL  
TRAINING COURSE PARTICIPATION  
AS OF 3/20/03**

| <u>COURSE</u>   | JIM | JUSTIN | KEN |
|---|-----|--------|-----|
| ##INSPECTION PROCEDURES (G-108)L.I.                       | Y   | Y      |     |
| ##HEALTH PHYSICS TECHNOLOGY (H-201)L.I.                   | Y   |        |     |
| ##DIAGNOSTIC & THERAPEUTIC NUCLEAR MEDICINE (H304)L.I.    | Y   | Y      | Y   |
| ##SAFETY ASPECTS OF INDUSTRIAL RADIOGRAPHY(H-305)L.I.     | Y   | Y      | Y   |
| ##TELE THERAPY & BRACHYTHERAPY(H-313)L.I.                 | Y   |        |     |
| ##LICENSING PRACTICES & PROCEDURES (G-109)L.              | Y   | Y      | Y   |
| ##TRANSPORTATION OF RADIOACTIVE MATERIALS (H-308)L.I.     | Y   | Y      |     |
| ##SAFETY ASPECTS OF WELL LOGGING (H-312)                  | Y   | Y      |     |
| #ROOT CAUSE/INCIDENT INVESTIGATION (G-205)I.              |     |        |     |
| #INSPECTING FOR PERFORMANCE - MATERIALS VERSION (G-304)I. |     |        |     |
| #EFFECTIVE COMMUNICATIONS FOR NRC INSPECTORS (OP)I.       |     |        |     |
| #OSHA INDOCTRINATION (G-111)I.                            |     |        |     |
| #NMSS RADIATION WORKER TRAINING (H-102)I.                 |     |        |     |
| #INTERNAL DOSIMETRY & WHOLE BODY COUNTING                 | Y   |        |     |
| #IRRADIATOR TECHNOLOGY (H-315)                            |     |        |     |
| #APPLIED HEALTH PHYSICS                                   | Y   |        | Y   |
| #HEALTH PHYSICS ENGINEERING                               | Y   |        |     |
| #CYCLOTRON  |     |        |     |
| ENVIRONMENTAL MONITORING FOR RADIOACTIVITY                |     |        |     |
| AIR SAMPLING FOR RADIOACTIVITY                            |     |        |     |
| RESPIRATORY PROTECTION                                    |     |        |     |
| RADIOLOGICAL SURVEYS IN SUPPORT OF DECOMMISSIONING        |     |        |     |
| HEALTH PHYSICS TOPICAL REVIEW                             |     |        |     |

# = Advanced Training Courses  
## = Core Training Course