INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF WASHINGTON AGREEMENT STATE PROGRAM

AUGUST 30 - SEPTEMBER 3, 1999

PROPOSED FINAL REPORT

U.S. Nuclear Regulatory Commission

ATTACHMENT 1

1.0 INTRODUCTION

This report presents the results of the review of the Washington radiation control program. The review was conducted during the period August 30 - September 3, 1999 by a review team comprised of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Florida. Review team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of a Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the November 25, 1998, revised NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period June 24, 1995 to September 3, 1999, were discussed with Washington management on September 3, 1999

[A paragraph on the results of the MRB meeting will be included here in the final report.]

The Washington Agreement State program is administered by the Division of Radiation Protection (the Division) located in the Department of Health (the Department). The Division consists of seven sections managed by a Director. Two sections within the Division have responsibilities for radioactive materials, the Radioactive Materials Section and the Waste Management Section. The Waste Management Section includes the Low-Level Radioactive Waste Program and the Uranium Mills Program. A regional office is located at the low-level radioactive waste disposal facility at Hanford, Washington. Organization charts for the Division and the Department are included as Appendix B. The Washington program regulates approximately 396 specific licenses authorizing agreement materials. The review focused on the Agreement 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 Washington.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the State on June 15,1999. The Division provided a response to the questionnaire by e-mail on July 9, 1999. A copy of the questionnaire is included in Appendix G of this report.

The review team's general approach for conduct of this review consisted of: (1) examination of the Division's response to the questionnaire; (2) review of applicable Washington statutes and regulations; (3) analysis of quantitative information from the Division licensing and inspection database; (4) technical review of selected licensing and inspection actions; (5) field accompaniments of four materials inspectors, one mill inspector, and one waste site inspector; and (6) interviews with staff and management to answer questions or clarify issues. The review team evaluated the information that it gathered against the IMPEP criteria for each common and applicable non-common performance indicator and made a preliminary assessment of the Division's performance.

Section 2 below discusses the Division's actions in response to recommendations made following the previous review. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-common performance indicators, and Section 5 summarizes the review team's findings and recommendations. Recommendations made by the review team are comments that relate directly to program performance by the Division.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

The previous review of the Washington radiation control program concluded on June 23, 1995. The review consisted of an evaluation of 30 program indicators per the 1992 Policy Statement. During the last review, 11 recommendations were made in the November 21, 1995 letter to Mr. Bruce Miyahara, Secretary, Washington Department of Health. The items were discussed in the NRC's June 25, 1996 letter to Washington in response to the Department's April 18, 1996 response letter. The team's review of the current status of the open recommendations is as follows:

1. We recommend that the State revise the effective date of its regulations equivalent to the safety requirements for radiographic equipment amendment to 10 CFR Part 34.20 so that its effective date is compatible with that of the NRC, January 10, 1996, or as close to that date as possible.

   Current Status: The review team noted that the 10 CFR Part 34.20 regulation was revised subsequently by NRC (60 FR 28323) and became effective June 30, 1995. The Division revised their regulations which became effective on March 9, 1999 to be compatible with 60 FR 28323. The team also noted that Part 34 has been amended again (62 FR 28948) and is due for adoption by the State by June 27, 2000. This recommendation is closed.

2. We recommend that the State clarify its policy and review its procedures for handling allegations referred to them by the NRC from unidentified allegers. The State should assure that their policy and procedures ensure the proper investigation and follow up of these allegations.

   Current Status: The Division has developed and implemented allegation procedures for the handling of all allegations. The Radioactive Materials Section and the Waste Management Section each developed procedures which were reviewed by the review team and were determined to meet the IMPEP criteria. This recommendation is closed.

3. We recommend that the State supplement the incident report form used by the emergency response section with forms specific to events and allegations involving radioactive materials, including misadministrations.

   Current Status: The Division has supplemented their incident report forms to be specific to events and allegations involving radioactive material. This recommendation is closed.

4. We recommend that the State develop procedures specific to investigation and reporting allegations and misadministrations.

   Current Status: The Division has developed procedures specific to investigations and reporting allegations and misadministrations. This recommendation is closed.

5. We recommend that the State develop a computer system for tracking and closing incident reports and investigations, including prompting management for reports requested by the NRC.

Current Status: The Division has developed and implemented a computerized tracking system for closing out incidents. This recommendation is closed.

6. We recommend the members of program management involve themselves in the escalated enforcement actions by attending all enforcement meetings with licensees and by assuring all escalated enforcement tools are used to carry out program policy and to provide documentation when management decides to deviate from the written policy.

   Current Status: Division management objected to the prescriptive nature of the recommendation, and noted that the Division makes determinations regarding attendance at enforcement meetings on a case by case basis. However, Division management did agree that better documentation of deviations from the general rule that management attends all such meetings is needed. The review team did not identify any concerns related to management's role in escalated enforcement actions during this review period. This recommendation is closed.

7. We recommend that the Radioactive Materials Section modify the medical inspection form to add a section applicable to radiopharmaceutical therapy.

   Current Status: The Radioactive Materials Section has revised its form to include a review of radiopharmaceutical therapy. This recommendation is closed.

8. We recommend that a procedure and a form be developed for inspecting high-dose-rate remote afterloader (HDR) licensees.

   Current Status: Due to the small number of HDR licensees, the Division does not see a need to develop a separate inspection form for this type of licenses. However, Division management has committed to use NRC's inspection procedure and related field notes for HDR inspections until such time as the Division develops its own procedure for this type of inspection. The review team did note some inconsistent use of forms for HDR inspections. See Section 3.2 for further discussion. This recommendation is closed.

9. In order to assure consistency in inspection practices, we recommend that the use of the new short inspection form be discontinued and that the standard forms be used until such time as the new form is evaluated and approved by program management. Once approved, the form should be used uniformly. Any new form developed should ensure that all essential aspects of the inspections are correct and that adequate space is provided on the form for clear documentation of comments and evaluations.

   Current Status: The use of the form in question was discontinued. This recommendation is closed.

10. We recommend that the Waste Management Section revise the form used for the annual inspection of the low-level radioactive waste disposal site to include verification that inspectors reviewed the licensee's incident file, and also to document management's review of the report.

Current Status: The review team noted that both of these recommended changes have been incorporated in the inspection checklist currently being used for inspection of the low-level radioactive waste facility. This recommendation is closed.

11. We recommend that the Waste Management Section revise the uranium mill inspection checklist to include review of a licensee's internal audit program, review of a licensee's ALARA program, management review, and subsequent correspondence.

Current Status: Based upon the review of the checklist and evaluation of the inspection files, the team determined that the Waste Management Section has revised the checklist and has implemented the previous recommendations. This recommendation is closed.

3.0 COMMON PERFORMANCE INDICATORS

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

3.1 Status of Materials Inspection Program

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

The review team's evaluation of the Division's inspection priorities revealed that inspection frequencies for most types of licenses were the same or more frequent than similar license types listed in NRC Inspection Manual Chapter (IMC) 2800, with the following exceptions: (1) licensees authorized for installation and maintenance of fixed gauging devices; (2) licensees authorized for training and servicing of portable gauging devices; and (3) licensees authorized for sales demonstrations, installation, and calibration of gauging devices. Each of these license types were assigned a Priority 4 rather than the more restrictive Priority 3 designation found in IMC 2800. However, the Division has an administrative goal of inspecting Priority 2 licenses annually, and Priority 3 and 4 licenses every other year. Nonetheless, during the onsite portion of this review, the Radioactive Materials Section changed the inspection priority designation of these license types to Priority 3, in accordance with IMC 2800.

The staff uses a computer database program to track inspection due dates. This data is provided to inspection staff and management to monitor upcoming inspections. In their response to the questionnaire, the Radioactive Materials Section indicated that only one inspection was overdue by more than 25% of the specified frequency as of June 15, 1999. This was a Priority 2 licensee that was subsequently inspected on July 29, 1999. The review team verified that no inspections remained overdue past the 25% window. During the review period, the Radioactive Materials Section performed 438 inspections, including 70 initial inspections

and 24 reciprocity inspections.

With respect to initial inspections of new licensees, a list of licenses issued since the last review was requested and evaluated. The Radioactive Materials Section inspection database information and a sampling of inspection files were evaluated to determine their initial inspection date. The Division has a policy of hand-delivering initial licenses which gives the Radioactive Materials Section staff an opportunity to discuss the ramifications of the license with the new licensee. The review team noted that initial inspections were performed within six months of license delivery or material receipt, in accordance with IMC 2800 requirements. Additionally, follow-up inspections were performed one year from the date of each initial inspection.

The review team also evaluated the status of reciprocity inspections. During the current review period, 188 requests for reciprocity were filed with the program. Ninety-eight of the reciprocity requests were from Priority 4 licensees. The review team noted a significant improvement in the number of core reciprocity inspections performed by the Radioactive Materials Section each year since the last program review. However, the Radioactive Materials Section did not meet the inspection goal outlined in IMC 1220 for Priority 3 licensees during calender year 1998; two of the nine Priority 3 licensees granted reciprocity were inspected as compared to the IMC 1220 inspection goal of 30%. Additionally, the Radioactive Materials Section did not meet the 100% inspection goal for teletherapy and irradiator source installation and service licenses. The staff performed three inspections of the six service licensees granted reciprocity during 1997, and two inspections of the three service licensees granted reciprocity during 1998. The staff has performed two inspections of the three service licensees granted reciprocity thus far in 1999. The review team discussed this issue with the Radioactive Materials Section Head and was informed that the staff intends to continue its efforts to meet the inspection goals specified in IMC 1220, especially with regard to source installation and exchange licensees, while continuing to direct staff resources to licensed activities posing the highest safety risks. For example, the Radioactive Materials Section performed 24 field site inspections of radiography licensees during this review period. This was considered by the review team to be a program strength.

The Radioactive Materials Section's policy is to dispatch written findings of inspections to licensees within 30 days of completing an inspection. Initial communication of inspection findings is provided at the conclusion of each inspection through an exit briefing with licensee management. The team's review of inspection files determined that written inspection findings were promptly communicated to licensees. The majority of inspection reports were issued onsite using a form similar to NRC's Form-591. Of the 19 core licensee inspection files evaluated by the team, inspection reports and/or letters of noncompliance were issued less than 30 days following the exit briefing with the licensee with only one exception; the review team identified one reciprocity inspection performed during April 1998 whereby no inspection report was ever provided to the licensee due to an oversight (no violations were identified during this inspection). The review team also noted that the Radioactive Materials Section's review of licensee responses to letters of noncompliance were performed in a timely manner.

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

3.2 Technical Quality of Inspections

The review team evaluated the inspection reports, enforcement documentation and inspection field notes, and interviewed inspectors for 19 materials inspections conducted during the review period. The casework included each of the Radioactive Materials Section inspectors and covered inspections of various types including medical institutions, industrial radiography, medical broad scope, research and development, mobile nuclear medicine, nuclear laundry, manufacturing and distribution, nuclear pharmacy, and reciprocity licensees. Appendix C lists the inspection casework evaluated in-depth, with case-specific comments.

As of the date of the review, the Radioactive Materials Section did not have written inspection procedures to clearly delineate what management's expectations are regarding the minimum level of review, and documentation required, for each type of inspection. Although the review team member did not identify any performance weaknesses during the inspector accompaniments, the review of inspection casework identified a need for improvement in documentation of areas covered during an inspection in the inspection report. Specifically, the amount of detail provided in the inspection reports was not always sufficient to describe the scope of licensed activities conducted at the facilities and all areas reviewed and/or observed by the inspector during the course of the inspection. The reviewer noted that the Radioactive Materials Section had recently developed new field notes for nuclear medicine and radiography which are more comprehensive and contain sufficient space for the documentation of an inspector's observations and findings. The team discussed this area with the Radioactive Materials Section staff since these newer field notes were not yet consistently used by each inspector (some inspectors continue to use the old field notes). The review team also noted that some inspectors utilize NRC's inspection field notes for HDR inspections, while other inspectors utilize a combination of Radioactive Materials Section inspection forms for teletherapy and brachytherapy. The team determined, however, based on interviews with inspection staff that routine inspections appeared to cover all aspects of the licensees' radiation safety programs. This issue was also discussed with the Radioactive Materials Section Head, who informed the team, although written inspection procedures are not in place, the Radioactive Materials Section staff has NRC's inspection procedures available to use as guidance as needed.

Each inspection report is reviewed by the Manager, Compliance Program. In addition, approximately 10% of the inspection reports are reviewed by the Radioactive Materials Section Head. Team inspections were performed when appropriate and for training purposes. Inspections are normally unannounced; however, Radioactive Materials Section staff commented that inspectors 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.

As noted in the questionnaire, the Division has a variety of portable instruments available for routine confirmatory surveys and for use in incident response. All Radioactive Materials Section instruments are tracked in a database which includes the calibration due date. Instruments requiring calibration are delivered to the Northwest Radiation Instrument Calibration Facility at the University of Washington. All instruments used for materials inspection activities possessed current calibrations.

The Radioactive Materials Section Head accompanies inspectors at least once every other year. Additionally, each inspector is accompanied by a peer from the Radioactive Materials Section every other year. Notes are made during the accompaniments and the inspectors are provided with feedback regarding their performance immediately following the inspection. A summary form is prepared and filed to document each accompaniment.

Four Radioactive Materials Section inspectors were accompanied during inspections by a review team member during the period of July 28-29 and August 2-3, 1999. The accompaniments included two biomedical research laboratory licenses and two portable gauge licenses. These accompaniments are also identified in Appendix C.

During the accompaniments, each inspector demonstrated appropriate inspection techniques and knowledge of the regulations. The inspectors were trained, prepared, and thorough in their audits of the licensees' radiation safety programs. Overall, each inspector utilized good health physics practices, their interviews with licensee personnel were performed in an effective manner, and their inspections were adequate to assess radiological health and safety at the licensed facilities.

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

3.3 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Radioactive Materials Section 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 Division's questionnaire responses relative to this indicator, interviewed Division management and staff, and considered any possible workload backlogs.

At the time of the review, the Radioactive Materials Section was staffed by the Radioactive Materials Section Head and seven staff members including five full time technical staff members. Three staff members act as "managers" for specific types of licensees: Manager, Industrial Licensing; Manager, Medical Licensing; and Manager, Laboratory Licensing. Each of these managers completes licensing actions and inspections focused on their primary license areas. The remaining two full time technical staff members conduct inspections (the Manager, Compliance Program and the Compliance Inspector). One additional staff member, an Environmental Specialist, conducts administrative tasks as well as low risk inspections and licensing actions (gauge licensees). In addition, two staff members from other sections of the Department work part time in the Radioactive Materials Section conducting inspections as necessary.

During the review period, staffing levels remained relatively constant. A vacant technical position was filled within a few months with the Compliance Inspector. The stability of the program is reinforced by the experience of the senior staff members. The current staffing level appears to be adequate for the program.

Through discussions with staff, the review team discovered that the Radioactive Materials Section Head is dedicated to providing training to personnel. When a training class is

announced, the Radioactive Materials Section Head discusses the course with staff and determines who, if anyone, should attend the class.

The Radioactive Materials Section Head and each of the Managers are well trained and qualified from an education and experience standpoint. All have attended most of the training courses prescribed by IMC 1246 and are very familiar with Washington regulations, policies, and procedures. The remaining staff members that conduct technical work have degrees in appropriate fields or comparable experience, and are qualified to conduct their assigned activities.

The Radioactive Materials Section issued a training and qualification procedure for staff on August 2, 1999, which is based on the "NRC/OAS Training Working Group Recommendations for Agreement State Training Programs." However, the document, Procedure RMS-61, "Staff Qualifications and Training," was not in use during the review period and Radioactive Materials Section staff members had not yet finalized their qualification journals.

Prior to August 2, 1999, each manager and each individual employee remained knowledgeable of qualifications not yet achieved. A documented qualification Inspector Training Record was also used by the Radioactive Materials Section staff at the time of the review. Each record details the inspections a staff member has helped with or been observed completing in order to be qualified to independently complete a certain type of an inspection. As part of RMS-61, in addition to formal coursework, the Radioactive Materials Section uses a "learn, do, and be reviewed" approach to qualifying individuals to complete specific types of inspections. The Radioactive Materials Section does not have a qualification standard for determining when an inspector has qualified to independently complete a certain type of inspection beyond this approach. A senior staff member determines when an individual has a sufficient amount of knowledge and experience and is thus qualified to complete a specific type of inspection or licensing action on their own.

Overall, there appear to be no direct performance-related problems associated with the training and qualifications of staff. Certain staff members could, however, benefit from additional training to strengthen their understanding of assigned tasks. For example, the Compliance Inspector conducted an inspection of a gamma knife facility independently, without previously participating in a gamma knife facility inspection, without taking the teletherapy/brachytherapy course, and prior to taking the nuclear medicine course. The Compliance Inspector is considered qualified to complete all types of inspections, including medical inspections, through the State's "learn, do, and be reviewed" approach. A senior staff member discussed areas that should be covered during the inspection with the Compliance Inspector prior to the inspection. The review team evaluated the casework from the gamma knife inspection and found no performance issues, but the review team believes that the Compliance Inspector's knowledge of teletherapy/brachytherapy in general could be enhanced through formal coursework. The Compliance Inspector is planning to take the teletherapy/brachytherapy course in 2000.

The Environmental Specialist who conducts low risk (gauge) inspections and licensing actions was not originally hired to complete radioactive materials licensing or inspection work. The Environmental Specialist does not have a science-related degree and has not taken an extensive health physics course. The Environmental Specialist has taken the licensing and inspection courses, a course in the transportation of radioactive materials, was tutored by one of the senior staff members in health physics, and has received some health physics and

related training by completing a number of classes pertaining to radioactive materials including the Troxler Gauge course. A team member accompanied the Environmental Specialist on a portable gauge inspection and determined that all pertinent aspects of the inspection were covered. However, the review team believes that the Environmental Specialist's knowledge of health physics in general could be supplemented by taking an extensive health physics course.

The new training and qualifications procedure adopted by the Radioactive Materials Section will provide a complete inventory of staff qualifications and needs once it is fully implemented. The review team recommends that the State complete their efforts to document the qualifications of all Radioactive Materials Section staff members by fully utilizing the RMS-61 procedure, assess the training needs of the Radioactive Materials Section staff, and provide training necessary to fully qualify staff members to the requirements in RMS-61.

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

3.4 Technical Quality of Licensing Actions

The review team examined completed licenses and casework for 27 license files representing the work of six license reviewers. The license reviewers, Radioactive Materials Section Head and Waste Management Section Head were interviewed to supply additional information regarding licensing decisions or file contents.

Licensing actions were evaluated for completeness, consistency, proper isotopes and quantities used, qualifications of authorized users, adequate facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Licenses were reviewed for accuracy, appropriateness of the license and of its conditions and tie-down conditions, and overall technical quality. Casework was evaluated for adherence to good health physics practices, reference to appropriate regulations, supporting documents, peer or supervisory review and proper signature authorities. The files were checked for retention of necessary documents and supporting data.

The licensing actions reviewed included the following types of license: academic, medical and research and development (both broad scope and specific), industrial radiography, radiopharmacy, commercial services, irradiators, portable and fixed gauges, HDR, gamma knife, teletherapy, commercial distribution of devices to general and specific licensees, consulting service and commercial waste processing and brokerage. Licensing actions included 3 new licenses, 19 renewals, 4 terminations, and 73 amendments. A list of these licenses with case-specific comments may be found in Appendix D.

All licensing actions in the Radioactive Materials Section are assigned a tracking number, logged into a computer tracking system, and given to the license reviewer. A reviewer generates a deficiency letter as needed and upon final resolution of all deficiency items produces a draft licensing action. The draft licensing action receives a quality assurance (QA) review by peer license reviewers. Corrections are made as needed and the licensing action is issued. The QA review is documented and maintained for management review. The license reviewers in the Radioactive Materials Section have signature authority and sign their licensing actions. The QA reviewer initials each final licensing action. Each license reviewer uses

boilerplate licenses for their type of licensing actions (industrial, medical, laboratory) to ensure consistency in standard licenses. Monthly reports on the status of each action are generated, reviewed, and discussed in monthly staff meetings.

The two license reviewers in the Waste Management Section perform licensing actions regarding the ATG Richland commercial waste processing license. The ATG license is drafted and a QA review is performed by the other license reviewer in the section. Only the Waste Management Section Head has signature authority and signs all licensing actions after an additional management QA review.

The review team found that the licensing actions were thorough, complete, consistent, and of high quality, with health and safety issues properly addressed. Tie-down conditions are generally backed by information contained in the license or sealed source and device registry files and are inspectable. Deficiency letters state regulatory positions, are used at the proper time, and identify deficiencies in the licensee's documents. Terminated licensing actions are well documented, showing appropriate transfer and survey records. License files are complete and organized. The Radioactive Materials Section uses a combination of NRC and Division application and regulatory guides. Checklists for each type of license are used and kept with the license file. These documents are complete, well organized, available to reviewers, and appear to be followed.

Except for a few new licenses that involve a change in ownership with little management changes, license delivery visits are conducted for all new applicants before the license is issued. If unresolved issues occur, the license is not issued until they are resolved.

The review team noted that two license renewals have been pending for extended periods without a written response by the program. The matter was discussed with Radioactive Materials Section management regarding the recent progress in reducing the renewal backlogs and to ensure that these two remaining actions continue to receive priority to ensure timely completion.

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

3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the Radioactive Materials Section's actions in responding to incidents, the review team examined the Division's response to the questionnaire regarding this indicator, evaluated selected incidents reported for the State of Washington in the "Nuclear Material Events Database" (NMED) against those contained in the Washington files, and evaluated the casework and supporting documentation for 20 material incidents. A list of incident casework examined, along with case specific comments, is contained in Appendix E. The team also evaluated the Radioactive Materials Section's response to five materials allegations, four of which were referred to the Division by NRC during the review period.

The review team discussed the Division's incident and allegation process, file documentation, the State's equivalent to the Freedom of Information Act, NMED, and notification of incidents to the NRC Operations Center with key Radioactive Materials Section and Waste Management Section management and staff. There was one radioactive materials incident reported by the

Waste Management Section. Incidents and allegations related to the low-level radioactive waste disposal and uranium recovery programs will be discussed under Sections 4.3 and 4.4 of this report.

When notification of an incident or an allegation is received, the Radioactive Materials Section and staff discuss the initial response and the need for an onsite investigation. The safety significance of the incident/allegation is evaluated to determine the type of response that the Radioactive Materials Section will take. After the investigation is completed, the pertinent incident information is forwarded to the NRC as appropriate.

The Department has policies on the disclosure of information. Department policy 17-005 addresses Employee Responsibilities with Confidential Information and Department policy 17-003 addresses Public Disclosure policy. All requests for public information must be sent to the Department Public Disclosure Coordinator for a determination whether the information can be disclosed or exempt from disclosure. The policies specify the information that is exempt from disclosure, including the protection of alleger identity, and directs all divisions to have procedures and train employees in those procedures. Within the Division, both the Radioactive Materials Section and the Waste Management Section have developed separate incident and allegation procedures. The Radioactive Materials Section has written guidance RMS-40, Investigations (Draft), dated August 20, 1999; RMS-41, Handling Allegations, dated August 23, 1999; RMS-42, Concerned Citizen Calls, dated August 24, 1999; and RMS-43, Incident Notification, dated August 22, 1999 for handling incidents and allegations. The Radioactive Materials Section also maintains a computer listing for tracking the status of all incidents and allegations. After a review of the incidents and discussions with staff, the review team determined that all reportable materials events were appropriately reported to the NRC Operations Center and the NMED database contractor.

Nineteen incidents selected for review included a contamination event at a waste processing facility, three loss of control events, an unauthorized maintenance of an HDR unit, two gauge thefts, four damaged equipment problems, two misadministrations, one unauthorized use of material, one overexposure, and five releases of licensed material or contamination events. The review team found that the Radioactive Materials Section's responses to incidents were complete and comprehensive. Initial responses were prompt, well-coordinated, and the level of effort was commensurate with the health and safety significance. Inspectors were dispatched for onsite investigations when appropriate and the Radioactive Materials Section took suitable enforcement action. The review team found the documentation of the response and follow up to incidents consistent and that incidents were followed up at the next inspection or in a timely fashion.

During the review period, there were four materials allegations referred to the Division by the NRC and one allegation reported directly to the program. The review team noted that allegations are maintained in a locked file. The review of the State's allegation files indicates that the State took prompt and appropriate action in response to the concerns raised. All of the allegations reviewed were closed and information provided to NRC as requested on specific cases. However, with respect to the allegation received directly by the Division, the team could not find any written documentation that informed the alleger of the outcome of the Radioactive Materials Section investigation or if the concern could be substantiated. The team observed that the tracking system contained dates for when the allegation was closed out, but there was no entry for written notification to the alleger concerning what actions were taken to resolve the

allegation and if the concern could be substantiated. Written notification to the alleger was discussed with the Radioactive Materials Section Head as one way to assure that allegations are closed out in a consistent manner. The review team noted that notification of the alleger is incorporated into the new procedures. The review team recommends that when possible, the alleger be notified in writing of the actions taken in response to the allegation and if the allegation could or could not be substantiated.

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

4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State programs: (1) Legislation and Program Elements Required for Compatibility; (2) Sealed Source and Device Evaluation Program; (3) Low-Level Radioactive Waste Disposal Program; and (4) Uranium Recovery Program. Washington's Agreement includes all of the non-common performance indicators.

4.1 Legislation and Program Elements Required for Compatibility

4.1.1 Legislation

Washington became an Agreement State in 1966. Along with their response to the questionnaire, the Division provided the review team with the opportunity to review copies of legislation that affect the radiation control program. The currently effective statutory authority is contained in the Revised Code of Washington (RCW), Nuclear Energy and Radiation (RCW 70.98) and Mill Tailings, Licensing and Perpetual Care (RCW 70.121). The Department is designated as the State's radiation control agency and implements the radiation control program.

4.1.2 Program Elements Required for Compatibility

RCW applies to all ionizing radiation and the statutory authority for radioactive materials, the low-level radioactive waste, and the uranium mill programs. Regulations are provided in the Washington Administrative Code. The program also is impacted by RCW 70.94, Washington Clean Air Act. Washington requires a license for possession and use of all radioactive material including naturally occurring materials, such as radium, and accelerator-produced radionuclides. The State also requires registration of all equipment designed to produce x-rays or other ionizing radiation.

The review team examined the State's administrative rulemaking process and found that the process takes about 6 to 8 months from the development stage to the final adoption by the Secretary and filing with the Code Reviser, after which the rules become effective in 31 days. The public, the NRC, other agencies, and all potentially impacted licensees and registrants are offered an opportunity to comment during the process. Comments are considered and incorporated as appropriate before the regulations are finalized, approved, and filed. The Division also has the authority to issue legally binding requirements (e.g., license conditions) in lieu of regulations until compatible regulations become effective.

The team evaluated the Division's response to the questionnaire, reviewed the status of regulations required to be adopted by the State during the review period, and verified the adoption of regulations with data obtained from the Office State Programs Regulation Assessment Tracking System. The review team noted that since the June 1995 review, the State updated the Department regulations for Radioactive Materials as follows:

- "Definition of Land Disposal and Waste Site QA Program," 10 CFR Part 61 amendment (58 FR 33886) that became effective on July 22, 1993 was adopted by the State and became effective January 20, 1997.

- "Decommissioning Recordkeeping and License Termination: Documentation Additions," 10 CFR Parts 30 and 40 amendments (58 FR 39628) that became effective on October 25, 1996 was adopted by the State and became effective May 3, 1997.

- "Uranium Mill Tailings Regulations: Conforming NRC Requirements to EPA Standards - Part 40," (59 FR 28220) that became effective on July 1, 1994 was adopted by the State and became effective July 17, 1997.

- "Timeliness in Decommissioning of Materials Facilities," 10 CFR Parts 30, 40, and 70 amendments (59 FR 36026) that became effective on August 15, 1994 was adopted by the State and became effective May 3, 1997.

- "Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use," 10 CFR Parts 30, 32, and 35 amendments (59 FR 61767 and 65243) that became effective on January 1, 1995 was adopted by the State and became effective July 9, 1998.

- "Frequency of Medical Examinations for Use of Respiratory Protection Equipment," 10 CFR Part 20 amendment (60 FR 7900) that became effective on March 13, 1995 was adopted by the State and became effective July 9, 1998.

- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20 and 61 amendments (60 FR 15649 and 25983) that became effective March 1, 1998. The Agreement States were to promulgate their regulations no later than March 1, 1998, so that NRC and the State would require this national system to be effective at the same time. The State's regulation became effective May 23, 1998.

- "Performance Requirements for Radiography Equipment," 10 CFR Part 34 amendment (60 FR 28323) that became effective on June 30, 1995 was adopted by the State and became effective March 8, 1999.

- "Radiation Protection Requirements: Amended Definitions and Criteria," 10 CFR Parts 19 and 20 amendments (60 FR 36038) that became effective on August 14, 1995 was adopted by the State and became effective March 8, 1999.

- "Clarification of Decommissioning Funding Requirements," 10 CFR Parts 30, 40, and 70 amendments (60 FR 38235) that became effective on November 24, 1995 was adopted by the State and became effective May 3, 1997.

- "Medical Administration of Radiation and Radioactive Materials," 10 CFR Parts 20 and 35 amendments (60 FR 48623) that became effective on October 20, 1995 was adopted by the State and became effective July 9, 1998.

- "Criteria for the Release of Individuals Administered Radioactive Material," 10 CFR Parts 20 and 35 amendments (62 FR 4120) that became effective May 29, 1997 was adopted by the State and became effective July 9, 1998.

- "Transfer for Disposal and Manifests; Minor Technical Conforming Amendment," 10 CFR Part 20 (63 FR 50127) that became effective November 20, 1998 was adopted by the State and became effective May 23, 1998.

The following regulation amendments were provided to the NRC on June 11, 1999 for comment, and a public hearing was held by the State on July 9, 1999. NRC reviewed the proposed rules for compatibility and had no comment on the rules as proposed. Following the review, the team was notified that these proposed rules became effective on August 21, 1999.

- "10 CFR Part 71: Compatibility with the International Atomic Energy Agency," 10 CFR Part 71 amendments (60 FR 50248) that became effective on April 1, 1996, was adopted by the State and became effective August 21, 1999.

- "Termination or Transfer of Licensed Activities: Recordkeeping Requirements," 10 CFR Parts 20, 30, 40, 61, and 70 amendments (61 FR 24669) that became effective on June 17, 1996, was adopted by the State and became effective August 21, 1999.

- "Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act," 10 CFR Part 20 amendment (61 FR 65120) that became effective January 9, 1997, was adopted by the State and became effective August 21, 1999.

- "Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State," 10 CFR Part 150 amendment (62 FR 1662) that became effective February 27, 1997, was adopted by the State and became effective August 21, 1999.

The team identified the following regulation changes and adoptions that will be needed in the future, and the Division management related that the regulations would be addressed in upcoming rulemakings or by adopting alternate legally binding requirements:

- "Licenses for Industrial Radiography and Radiation Safety - Requirements for Industrial Radiography Operations," 10 CFR Parts 30, 34, 71, and 150 amendments (62 FR 28947) that became effective June 27, 1997.

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

- "Exempt Distribution of a Radioactive Drug Containing One Microcurie of Carbon-14 Urea," 10 CFR Part 30 amendment (62 FR 63634) that became effective January 2, 1998.

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

- "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations," 10 CFR Part 34 amendment (63 FR 37059) that became effective July 9, 1998.

- "Minor Corrections, Clarifying Changes, and a Minor Policy Change," 10 CFR Parts 20, 32 and 39 amendments (63 FR 39477 and 63 FR 45393) that became effective October 26, 1998.

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

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

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

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

In assessing the Radioactive Materials Section's Sealed Source & Device (SS&D) evaluation program, the review team examined information provided in the response to the IMPEP questionnaire on this indicator. A review of selected new and amended SS&D evaluations (Appendix F) and supporting documents covering the review period was conducted. The team observed the Radioactive Materials Section's use of guidance documents and procedures, and interviewed the Radioactive Materials Section Head and the two SS&D reviewers.

The Manager, Industrial Licensing, conducts the SS&D reviews and the Manager, Medical Licensing, performs the concurrence reviews. The Radioactive Materials Section Head indicated that for a medical SS&D review the roles of the reviewers would be reversed. These reviews are technical in nature, to ensure the technical soundness, readability, and understandability of the registration certificates.

4.2.1 Technical Quality of the Product Evaluation Program

During the review period seven SS&D certificates were issued by the Division. Three new SS&D certificates were issued and four certificates were amendments for two devices. One of the amended certificates was originally issued to contain non-AEA material and later amendments were made to include AEA material.

Analysis of the files and interviews with the staff confirmed that the Division follows the recommended guidance from the NRC SS&D training workshops. The registration files

contained all correspondence, photographs, engineering drawings, radiation profiles, and results of tests conducted by the applicant. In addition, the SS&D review checklist received at the NRC SS&D workshop was used to assure all relevant materials had been submitted and reviewed. The checklist was contained in the registration file. The Division management indicated that the guidance in NUREG-1556, Volume 3, issued September 1997, will be utilized for future reviews. All pertinent ANSI Standards, Regulatory Guides, and workshop references were confirmed to be available and are used when performing SS&D reviews. The Radioactive Material Section Head related that the non-AEA material reviews are performed in the same procedural manner using the same references as used for AEA sources and devices.

4.2.2 Technical Staffing and Training

The Manager, Industrial Licensing, conducts the SS&D reviews and a second reviewer performs the concurrence reviews. Both individuals sign the registry sheet and both have attended the SS&D workshops sponsored by NRC and both have had several years experience reviewing license applications and SS&D applications. The Manager is committed to maintaining a high degree of quality in their SS&D reviews and related that additional training and/or another workshop is needed to update staff skills and knowledge. The team related to the reviewers that another workshop is being planned. The Manager also stated that additional engineering support is available from the Waste Management Section if needed. The team determined that the reviewers meet the technical training required for SS&D reviews as described under the guidance.

4.2.3 Evaluation of Defects and Incidents Regarding SS&Ds

No incidents or defects related to SS&Ds were reported with these devices during the review period. The team also verified that there were no reported incidents through discussions with the reviewers and the Radioactive Materials Section Head, and an on-line search by device and manufacturer utilizing the NMED system was conducted by the team prior to the review.

Based on the IMPEP evaluation criteria, the review team recommends that Washington's performance with respect to the indicator, Sealed Source and Device Evaluation Program, be found satisfactory.

4.3 Low-Level Radioactive Waste (LLRW) Disposal Program

US Ecology, Inc. (USE) is licensed by the Division to receive, handle, process, store, and dispose of LLRW for the Richland, Washington site. The license establishes regulatory conditions and procedures that USE must comply with regarding waste acceptance, site operation, and environmental monitoring. Commercial disposal of LLRW at the Richland site began in 1965. Twenty-five license amendments have been issued primarily to address changes in license conditions. The last amendment was issued February 17, 1999. An application for license renewal has been in timely renewal since 1996. The Waste Management Section has completed its review of the site closure plan; however, a decision on the license renewal is pending completion of an Environmental Impact Statement (EIS) that will consider various options for closure of the site. The EIS is tentatively planned for completion in November 1999.

The LLRW disposal program review was initiated through an early evaluation of relevant background materials, including the Waste Management Section's Technical Evaluation Report for the 1996 US Ecology Site Stabilization and Closure Plan, Technical Evaluation Report on Potential Dose Pathways for Disposal of the Portland General Electric's Trojan Reactor Vessel, and responses to the questionnaire. A one-day site visit to the Richland LLRW disposal facility was conducted on September 1, 1999, by a review team member, to accompany the Division's site inspectors in their routine inspection of the facility.

In conducting this IMPEP review, five sub-indicators were used to evaluate the Division's performance regarding its low-level radioactive waste disposal program. These indicators include: (1) Status of Low-Level Radioactive Waste Disposal Inspection; (2) Technical Quality of Inspections; (3) Technical Staffing and Training; (4) Technical Quality of Licensing Actions; and (5) Response to Incidents and Allegations. The results of the LLRW disposal program review will be discussed under each of these sub-indicators.

4.3.1 Status of Low-Level Radioactive Waste Disposal Inspection

The review team found that the Richland LLRW disposal site is inspected annually as prescribed in NRC Inspection Manual Chapter 2800. Inspection of the site, by the Waste Management Section senior inspectors, is designed to ensure compliance with the requirements of the facility standards manual, the site radiological operating procedures, licensing conditions, and regulations. Partial inspections are performed approximately four times per year at the LLRW site, with each inspection focusing on different areas. All of the inspection areas are covered at a minimum frequency of once per year. In addition to the annual inspections, the Waste Management Section onsite representative performs a monthly inspection of the site looking at a shorter list of site requirements. The review team confirmed the frequency of inspections through review of the inspection report files.

The review team analyzed the Division's capability for maintaining and retrieving data on the status of the inspection program. Based on an interview with the Waste Management Section Head, the review team found that an official electronic database which summarizes the inspection status has not been established; however, one of the senior inspectors maintains his own electronic database. Printouts are kept in the inspection files. Given that partial inspections are conducted at the site, such a database is important in identifying which specific requirements have not been addressed in prior inspections.

The review team found that inspection findings are communicated to the licensee in a timely manner. In reviewing the inspection files, the team found that inspection findings are communicated to the licensee using a form similar to NRC's Form 591 issued onsite or in a notice of correction letter. These forms are generally used for small infractions. Notice of correction letters are issued for significant infractions and/or for a large number of infractions. The team found these to be routinely issued within 30 days of the inspection.

4.3.2 Technical Quality of Inspections

A review team member accompanying inspectors combined with a review of inspection files indicate inspection findings are well founded and well documented. The Waste Management Section inspections were thorough, technically accurate, complete, consistent, and of high quality with sufficient documentation to ensure that the licensee's performance with respect to

health and safety were acceptable.

The team reviewed inspection files for 1995-1999. The team reviewed the inspection files for 1998 and 1999 in greater detail than the other years. A review of completed inspection reports indicates that inspections are complete and reviewed promptly by the Waste Management Section Head. The team found that follow-up inspections addressed previously identified open items and/or past violations. An annual summary is provided in each file identifying open items for the year and whether or not they were closed. The files contain the inspection checklist, field notes, notices to the licensees, and some digital photographs of the site. The team also found through examination of these files that a supervisory accompaniment of the site inspectors is regularly made (on an annual frequency).

The team also reviewed notebooks and files maintained by the onsite inspector at the site. The onsite inspector maintains files on waste generators. In addition, notebooks are kept documenting a weekly summary of shipments, fence-line surveys performed by the inspector, and waste container inspections, which included some digital photographs.

The Waste Management Section has recently developed inspection procedures which spell out the frequency of inspections, inspection preparation requirements, inspection reporting requirements, and the checklist of licensing requirements. The procedures also include appropriate forms and sample letters for documenting findings. The Waste Management Section also maintains, at the site, a set of more specific inspection procedures for the onsite inspector.

4.3.3 Technical Staffing and Training

The review team evaluated the Waste Management Section staffing in support of the LLRW program. The team identified nine staff members currently supporting the LLRW program, including the Waste Management Section Head, an administrative assistant, and staff with backgrounds in health physics, physics, nuclear engineering, hydrogeology, geochemistry, geotechnical engineering, mechanical engineering, and civil engineering. Based mostly on interviews with the staff, the team found that all technical staff hold bachelors degrees or higher, or equivalent training and experience. In addition, the team noted that contractual support is commonly used to acquire additional expertise as needed. The review found that the qualifications of the technical staff are generally commensurate with the expertise identified as necessary to regulate an LLRW disposal facility. Waste Management Section staff turnover has been low.

In review of staff training files, the review team found the staff training records to be incomplete. Some files had no training information at all, and for some staff no file had been established. In addition, only one file contained adequate information (e.g., resume and training history) to allow an independent assessment of the staff qualifications. The Waste Management Section has recently developed staff qualifications and training procedures. These procedures call for staff to work with their supervisor in identifying and attending appropriate training courses. In addition, the supervisor is to maintain a central training record for each staff member and track the progress of staff toward qualification in specific program areas. Based upon the team's review of the staff training files, this procedure is still in the early stages of implementation. The only list of training courses identified in any of the files is the core courses listed in IMC 1246. No other pertinent courses were identified. The team found that some staff has taken several

of the core courses identified in IMC 1246, while other staff has taken none. None of the staff has completed all of the core courses or equivalent training as identified in IMC 1246. Some staff has taken other training courses; however, these are not included in the list of courses to be tracked by the supervisor. The review team recommends that management fully implement the training program established for the Waste Management Section.

4.3.4 Technical Quality of Licensing Actions

USE's license to operate the LLRW disposal facility was placed in timely renewal in 1997. The existing license, which was set to expire after May 31, 1997, will remain in effect while the renewal application is reviewed. The Waste Management Section is currently developing an EIS which will look at various options for closing the site. The Waste Management Section has decided to forego renewal of the operating license until completion of the EIS. In interviews with the Waste Management Section staff, the team has determined that the EIS process has had public involvement. Concerns and issues raised by various stakeholders are being considered in the EIS.

In accordance with condition number 66 of their license, USE is required to submit, every four years for the Waste Management Section's review, an updated facility closure and stabilization plan. The last plan was submitted in September 1996. The Waste Management Section has written a technical evaluation report (TER) documenting their review of the closure plan. The review team primarily evaluated the technical quality of licensing actions for the LLRW program by reviewing this TER since the majority of the Waste Management Section technical staff worked on it. In addition to reviewing the TER for the USE site closure plan, the team also reviewed the TER developed for the Portland General Electric's Trojan Reactor Vessel disposal. The team's review of these documents found that license reviews within the LLRW program are thorough, complete, consistent, and of acceptable technical quality. In reviewing USE's site closure plan, the Waste Management Section performed a detailed assessment of USE's performance assessment, including identifying potential shortcomings. For both the review of the site closure and review of the reactor vessel disposal, the Waste Management Section used NRC guidance as appropriate and published research conducted at the Richland site. In addition to reviewing the Waste Management Section's performance assessment, the Waste Management Section performed their own confirmatory analyses using contractors to support and review their analysis as needed. The Waste Management Section is currently undertaking a probabilistic assessment to gain additional insights into the USE site's performance in support of the EIS. As part of the review of the site closure plan and in support of the EIS, the Waste Management Section has also performed an independent cost estimate for site closure and long-term perpetual care and maintenance of the site. This information will be used in determining whether or not there are adequate funds currently available or will be available when the site is closed. The review team found the Waste Management Section staff to be appropriately utilizing insights from their assessments in establishing licensing conditions and managing the operation of the facility.

In addition to reviewing the TER for the site closure and the reactor vessel disposal, the review team also reviewed license amendments 20-25 to the USE license and the waste acceptance variance requests for Moravek Biochemical, Siemens, and M.F. Physics Corporation. The review team found the technical quality of these licensing actions to be generally acceptable; however, better documentation is needed to explain the nature and rationale for the given licensing action. For example, Amendment No. 22 of the USE license was initiated by the

Waste Management Section to change several licensing conditions; however, the team found no documentation explaining the need for changing the conditions or the rationale for why the intended change was deemed to be appropriate.

The Waste Management Section has recently developed license review procedures for the LLRW program. These procedures encourage the use of NRC and international guidance as appropriate. However, the procedures do not specifically identify which guidance should be used or how specific aspects of the review should be found to be acceptable (i.e., the technical basis for accepting specific aspects of the license).

4.3.5 Response to Incidents and Allegations

The review team examined the casework on incidents and allegations within the LLRW program. During 1996, the team found that two incidents were reported and one allegation which was referred to the Division by NRC. The team found that actions taken by the Waste Management Section were generally appropriate and very timely. Incidents and allegation were quickly investigated (within a day) and closed within a week. The review team found the level of effort to be appropriate for the given incident. Neither of the two incidents warranted notification of the NRC.

The Waste Management Section has recently developed procedures for handling incidents and allegations, which were issued August 30, 1999. The procedures for handling allegations include information on protecting the identity of the alleger, documentation of the allegation, and tracking the allegation by management. The procedures for handling incidents include information on what constitutes an incident, appropriate documentation of the incident, reference to abnormal occurrences criteria for States, and tracking the incident by management. Based on review of the documentation and tracking, it appears that the procedures are still in the early stages of implementation.

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

4.4 Uranium Recovery Program

In conducting this IMPEP review, five sub-indicators were used to evaluate the Division's performance regarding its uranium recovery program. These indicators include: (1) Status of Uranium Recovery Inspection Program; (2) Technical Quality of Inspections; (3) Technical Staffing and Training; (4) Technical Quality of Licensing Actions; and (5) Response to Incidents and Allegations. The results of the uranium recovery program review will be discussed under each of these sub-indicators.

4.4.1 Status of the Uranium Recovery Inspection Program

The review team focused on several factors in evaluating the Waste Management Section's performance for this sub-indicator, including inspection frequency, overdue inspections, timely issuance of inspection reports and findings to licensees, inspection follow up, and retrievability of uranium recovery inspection materials. The review team's evaluation is based on a review of the Waste Management Section's responses to the questionnaire, the uranium recovery

inspection schedule, inspection casework files, and interviews with inspection staff and management.

During the review period, the Waste Management Section reviewed licensee submittals and inspected uranium recovery facilities in various stages of operation. The program regulates two conventional uranium mills: Dawn Mining Company (Dawn), that operated during the review period; and Western Nuclear, Inc., Sherwood Project (Sherwood), that is currently under reclamation.

Based on review of the inspection files, it was determined that inspection frequency is more frequent than IMC 2801, "Uranium Mill and 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program." Partial inspections are performed approximately four times per year at the Dawn active mill, with each inspection focusing on different areas. All of the inspection areas are covered at a minimum frequency of once per year. This guarantees that a complete inspection is performed at least once per year, but since previous issues and deficiencies are evaluated in the next quarterly inspection, the problem areas are inspected more frequently. The team finds this practice to be satisfactory. It should be noted that for the Sherwood site, inspections and construction reviews are numerous and sometimes performed two times a month by Waste Management Section staff that are located in the area of the mill. As a result of the frequent inspections, the team concludes that there are no overdue inspections.

Based on review of the inspection casework files, the team noted that inspection reports are written within 30 days of the inspection, appropriate follow-up actions are conducted if deficiencies are identified, and casework files are easily retrieved and accessible. The reports are review by management and receive appropriate attention.

4.4.2 Technical Quality of Inspections

In reviewing this sub-indicator, the review team examined inspection files, inspection reports, and enforcement documentation for the uranium mills identified in Appendix C. The review covered several inspections conducted during the review period representing a range of uranium recovery inspection activities in various stages of license operations. Inspectors and management were interviewed to assess the adequacy of their preparation for the inspections, the depth and content of the actual inspections, and the appropriateness of inspection findings. The review team's findings are discussed below.

Most inspections are team inspections. The inspection team will review relevant inspection procedures identified in a checklist format and also review previous inspection reports and other background information prior to the inspection.

The review determined that, during a typical inspection, inspectors observe licensee operations; interview workers, managers, and contractors; review facility records; examine site operating plans and procedures; and make independent measurements during inspections, as appropriate. These activities were also verified through an inspection accompaniment that was performed during the review. Although the Waste Management Section inspectors primarily focus on health physics and radiation safety issues, they also routinely inspect for environmental monitoring, management and organizational issues, and general housekeeping practices.

The review team found that the inspection reports provided appropriate depth of coverage. They addressed compliance conditions for the licensees, and demonstrated that the inspectors pursued root causes where problems or violations were identified.

The review team determined that during the review period, the uranium recovery inspectors had been accompanied by their supervisors on several occasions. These accompaniments were adequately documented. The review team found that the Waste Management Section Head routinely meets with the uranium recovery inspectors after their inspections to review inspection findings and to plan follow-up strategy.

Based on a site visit with the Department of Energy (DOE) to the Sherwood site and review of inspection files, the review team learned that Waste Management Section inspectors are not using any specific inspection written procedures. As an example, one NRC inspection procedure, On-Site Construction, is available for use by Agreement States and specifically addresses onsite construction reviews and placement of erosion protection. This inspection procedure suggests specific activities that inspectors should perform when checking the depth, gradation, and adequacy of rock placement. The team considers that use of this inspection procedure, or an equivalent, could have improved the quality of the inspection at the Sherwood site as well as benefitting future inspections at Dawn and the commercial low-level waste site.

The review team also learned that inspections are performed using mill-specific and license-specific checklists. Although the team finds this practice acceptable and has led to an adequate inspection program, the team believes that the State should develop specific inspection procedures in the uranium recovery area containing information similar to the NRC inspection procedures for uranium recovery. For example, NRC inspection procedures cover such areas as Management Organization and Controls, On-Site Construction, and Emergency Preparedness. The review team believes that the inspection staff would benefit from having procedures with details of how inspectors should evaluate each specific inspection area with criteria for acceptability. The review team discussed the usefulness of such procedures with the Waste Management Section in assuring consistency and continuity between inspections, and in the event of staff turnover. The review team recommends that the State develop specific inspection procedures for the uranium recovery program.

4.4.3 Technical Staffing and Training

In reviewing this sub-indicator, the review team evaluated the uranium recovery staffing level, the technical qualifications of the staff, staff training, and staff turnover. This evaluation included general examination of training records of the uranium recovery staff and the qualifications of the reviewers assigned to perform specific reviews of surface water hydrology and erosion protection aspects of site closure.

Various members of the Waste Management Section staff participate in inspections and licensing activities at the two uranium recovery sites. The amount of participation varies, depending on the individual, their qualifications, and their workload. During the review period, there was no staff turnover in the uranium recovery program. Based on discussions with management, no turnover is expected in the immediate future.

Review of the Waste Management Section staff qualifications indicates that the inspectors and technical reviewers generally have strong health physics or radiation safety backgrounds, and

the health physics focus of the inspections has been strong. The engineering staff includes a mechanical, nuclear and civil engineer. In the areas of surface water hydrology and hydraulic engineering, much of the expertise by the Waste Management Section has been gained by licensing experience for the Dawn and Sherwood reclamation plans. Through numerous reviews of engineering analyses and interactions with licensees and consultants, this experience has been used to develop conclusions related to the adequacy of several site closure plans. Waste Management Section expertise and experience is further supplemented by the use of professional engineers and technical experts from other State agencies, including surface water hydrology experts, dam safety engineers, and geotechnical engineers.

However, the review team noted from the review of training records and discussions with staff, that staff has limited experience in certain areas and has not received specific training in areas, such as the construction and placement of erosion protection. The review team concludes that additional training and experience of the inspection staff in these areas will improve the quality of inspections at Sherwood, Dawn, and the Richland LLRW site.

Based on discussions with Waste Management Section staff and management, this training could be accomplished by allowing Waste Management Section staff to directly observe the placement of riprap at several sites that have been completed and were found acceptable. The team believes that significant experience and training could be achieved by such a visit to completed sites. This training would be particularly useful in the evaluation of information that will be submitted in the near future by Sherwood and would also be useful in evaluating erosion protection at the Dawn and Richland sites. Waste Management Section staff believes that this training would be useful and should be accomplished within the next 2-3 months to help the reviewers to determine the acceptability of any upcoming repairs or design changes performed by the licensee. In addition, the Waste Management Section believes it would be helpful during these site visits to have discussions, meetings, and interactions with licensees, contractors, DOE long-term surveillance experts, and NRC staff. The review team offered to facilitate this training. The review team also concludes that this training would be helpful in the review of any upcoming reclamation/closure submittals for the Dawn site and the Richland site. Additional discussion may be found in Section 4.4.4 of this report.

Based on examination of training files and discussions with Waste Management Section staff and management, formal training in several specific program areas, such as surface water hydrology, has not been received. The review team learned that Waste Management Section staff would like to receive formal training in various areas such as flood analysis, water surface profile analysis, erosion protection design, sediment analysis, and rock durability. The review team agrees with Waste Management Section staff that additional training would be useful, particularly in areas where new models and analytical techniques for calculating floods, sediment yield, and other design conditions have recently been developed. The review team recommends that Waste Management Section management develop and implement a training plan to include training in specific technical areas related to flood analysis, water surface profile analysis, erosion protection design, rock durability and erosion protection placement.

Overall, based on review of two site closure plans for the Dawn and Sherwood sites, the team concludes that the qualifications of the reviewers and inspectors are sufficient to regulate uranium recovery facilities.

4.4.4 Technical Quality of Licensing

The Waste Management Section normally uses a team approach to review various aspects of a reclamation plan or other licensing actions. Any expertise that is not available in the Waste Management Section is supplemented through the use of other State agencies such as the Washington Department of Ecology, where various engineers and professionals are employed.

The review team reviewed groundwater hydrology, surface water hydrology, and erosion protection aspects of two closure plans currently under review by the Waste Management Section. The team did not review other areas such as geotechnical engineering or radiological cleanup.

Based on this review, the team determined that the Waste Management Section analyses are of acceptable technical quality. All major review areas are addressed by technical evaluations in areas such as flood determinations, water surface profiles, erosion protection design, sediment analyses, and rock durability. The Waste Management Section analyses followed design practices recommended in various NRC technical publications (NUREGs) or other guidance documents developed by the NRC staff.

The team also evaluated licensing actions related to the Dawn mill, in active production. Based on an inspection accompaniment and a review of the licensing file, the team concludes that licensing actions are appropriate and that the license conditions are clear and well-written. Requirements associated with these conditions are based on a need to meet the Department's regulations and to protect health and safety.

In follow-up activities related to the construction issues identified at Sherwood, the Waste Management Section staff has further evaluated the existing site construction conditions, developed reports documenting their findings, issued questions and comments to the licensee, and has acted to resolve any potential issues related to rock placement and rock durability. The review team concludes that the rock placement training identified in Section 4.4.3 should be completed within the next 2-3 months, so that the Waste Management Section staff will be able to better evaluate licensee responses to the recent Waste Management Section questions and comments.

4.4.5 Incidents and Allegations

For this sub-indicator, the review team examined several files related to uranium recovery incidents and allegations. The review team determined that the Waste Management Section process, procedures, and overall performance for uranium recovery facilities were acceptable.

During the review period, the Waste Management Section responded to three allegations in the uranium recovery area. Based on review of the casework files, the team determined that the Waste Management Section acted promptly and appropriately in resolving the concerns.

The Waste Management Section also responded to four incidents that occurred during the review period. The review team found the level of effort to be appropriate for the given incident. None of the incidents warranted notification of the NRC.

Based on the IMPEP evaluation criteria, the review team recommends that Washington's performance with respect to the indicator, Uranium Recovery Program, be found satisfactory.

5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found Washington's performance to be satisfactory for all nine performance indicators. Accordingly, the review team recommends that the Management Review Board find the Washington Agreement State program to be adequate to protect public health and safety and compatible with NRC's program.

Below is a summary list of recommendations, as mentioned in earlier sections of the report, for implementation and evaluation, as appropriate, by the State.

RECOMMENDATIONS:

1. The review team recommends that the State complete their efforts to document the qualifications of all Radioactive Materials Section staff members by fully utilizing the RMS-61 procedure, assess the training needs of the Radioactive Materials Section staff, and provide training necessary to fully qualify staff members to the requirements in RMS-61. (Section 3.3)

2. The review team recommends that when possible, the alleger be notified in writing of the actions taken in response to the allegation and if the allegation could or could not be substantiated. (Section 3.5)

3. The review team recommends that management fully implement the training program established for the Waste Management Section. (Section 4.3.3)

4. The review team recommends that the State develop specific inspection procedures for the uranium recovery program. (Section 4.4.2)

5. The review team recommends that Waste Management Section management develop and implement a training plan to include training in specific technical areas related to flood analysis, water surface profile analysis, erosion protection design, rock durability and erosion protection placement. (Section 4.4.3)

LIST OF APPENDICES AND ATTACHMENTS

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	Area of Responsibility
Richard L. Woodruff, Region II	Team Leader Response to Incidents and Allegations Legislation and Program Elements Required for Compatibility
Mark Shaffer, Region IV	Accompaniments Status of Inspection Program Technical Quality of Inspections
Lance Rakovan, OSP	Technical Staffing and Training
Michael Stephens, State of Florida	Technical Quality of Licensing Sealed Source and Device Evaluation Program
Mark Thaggard, NMSS	Low-Level Radioactive Waste Disposal Program
Terry (Ted) Johnson, NMSS	Uranium Mill Program

APPENDIX B

STATE OF WASHINGTON

DEPARTMENT OF HEALTH
and
DIVISION OF RADIATION PROTECTION

ORGANIZATION CHARTS

1996-97 Organization Chart

Washington State Government

State agencies based on gubernatorial appointment authority

DEPARTMENTAL

Legislative Branch

Senate - House of Representatives

- Joint Legislative Audit and Review Committee
- Legislative Transportation Committee
- Legislative Ethics Board
- Legislative Evaluation and Accountability Program
- Office of the State Actuary
- Joint Legislative Systems Committee
- Redistricting Commission

Executive Branch

Statewide Elected Officers

- Commissioner of Public Lands
  - *Department of Natural Resources*
- Insurance Commissioner
- Lieutenant Governor
- Treasurer
  - *Public Deposit Protection Commission*
  - *Puget Sound Water Quality Action Team*
- Governor
  - Office of the Governor
- Attorney General
  - *Executive Ethics Board*
  - *Office of the Children's Ombudsman*
- Superintendent of Public Instruction
  - *Board of Education*
- Secretary of State
  - *Productivity Board*
- Auditor

Agencies with Executive Appointed by the Governor

Environment and Natural Resources

- Department of Ecology
- Department of Agriculture
  - *commodity commissions*
- Office of Marine Safety
- Interagency Committee for Outdoor Recreation
- Pollution Liability Insurance Program

General Government

- Office of Financial Management
- Department of General Administration
- Department of Revenue
- Department of Personnel
  - *Personnel Resources Board*
- Department of Retirement Systems
  - *Employee Retirement Benefits Board*
- Department of Information Services
- Lottery Commission
- Department of Financial Institutions
- Military Department
- Public Printer
- Office of Administrative Hearings
- Board of Accountancy

Transportation

- State Patrol
- Department of Licensing
  - *occupational regulatory boards*
- Traffic Safety Commission

Health and Human Services

- Department of Social and Health Services
- Department of Labor and Industries
- Department of Employment Security
- Department of Health
  - *occupational regulatory boards*
- Department of Corrections
- Department of Veterans' Affairs
- Health Care Policy Board
- Council for the Prevention of Child Abuse and Neglect
- Health Care Authority
  - *Public Employees' Benefits Board*
- Department of Services for the Blind

Education

- School for the Blind
- School for the Deaf
- Workforce Training and Education Coordinating Board

Community and Economic Development

- Department of Community, Trade, and Economic Development
  - *Energy Facility Site Evaluation Council*
- Office of Minority and Women's Business Enterprises
- Commission on Asian Pacific American Affairs
- Governor's Office of Indian Affairs
- Commission on African-American Affairs
- Commission on Hispanic Affairs
- Arts Commission
- Economic Development Finance Authority

Agencies with Executive Appointed by a Board

- Fish and Wildlife Commission
  - *Department of Fish and Wildlife*
- Parks and Recreation Commission
- Environmental Hearings Office
  - *Pollution Control Hearings Board*
  - *Shorelines Hearings Board*
  - *Forest Practices Appeals Board*
  - *Hydraulic Appeals Board*
- Conservation Commission
- Columbia River Gorge Commission
- Growth Management Hearings Boards
  - *Eastern Washington*
  - *Central Puget Sound*
  - *Western Washington*
- Board of Natural Resources
- Personnel Appeals Board
- Liquor Control Board
- Public Employment Relations Commission
- Board of Tax Appeals
- Public Disclosure Commission
- Board for Volunteer Firefighters and Reserve Officers
- Gambling Commission
- Horse Racing Commission
- Utilities and Transportation Commission
- Investment Board
- Statute Law Committee
  - *Code Reviser*
- Municipal Research Council
- Economic and Revenue Forecast Council
- Forensic Investigations Council
- Citizens' Commission on Salaries for Elected Officials
- State Capitol Committee
- State Finance Committee
- Transportation Commission
  - *Department of Transportation*
- Board of Pilotage Commissioners
- Marine Employees' Commission
- Transportation Improvement Board
- County Road Administration Board
- Human Rights Commission
- Indeterminate Sentence Review Board
- Board of Industrial Insurance Appeals
- Criminal Justice Training Commission
- Sentencing Guidelines Commission
- Health Care Facilities Authority
- Board of Health
- Higher Education Coordinating Board
- Governing Boards of Four Year Institutions of Higher Education
  - *University of Washington*
  - *Washington State University*
  - *Central Washington University*
  - *Eastern Washington University*
  - *Western Washington University*
  - *The Evergreen State College*
- Board for Community and Technical Colleges
- Boards of Trustees
  - *Community Colleges*
  - *Technical Colleges*
- Joint Center for Higher Education
- Library Commission
  - *State Library*
- Higher Education Facilities Authority
- Washington State Historical Society
- Eastern Washington State Historical Society
- Convention and Trade Center
- Housing Finance Commission

PREPARED BY THE OFFICE OF FINANCIAL MANAGEMENT 7/96

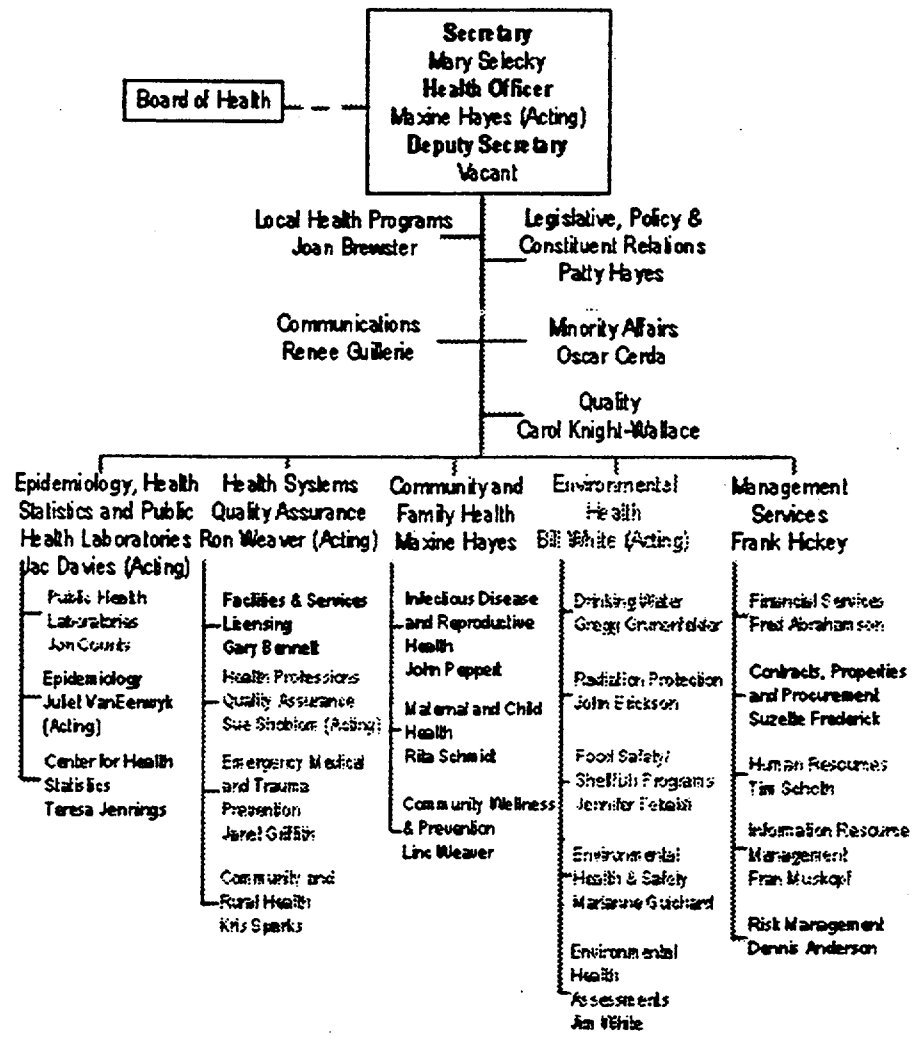
Health

Agency Organization

Employee Directory | What's New | Search | Sentinel

Agency Policies
Bulletin Board
Computer Help
Forms
News
Health Links
Year 2000

Crosswashington

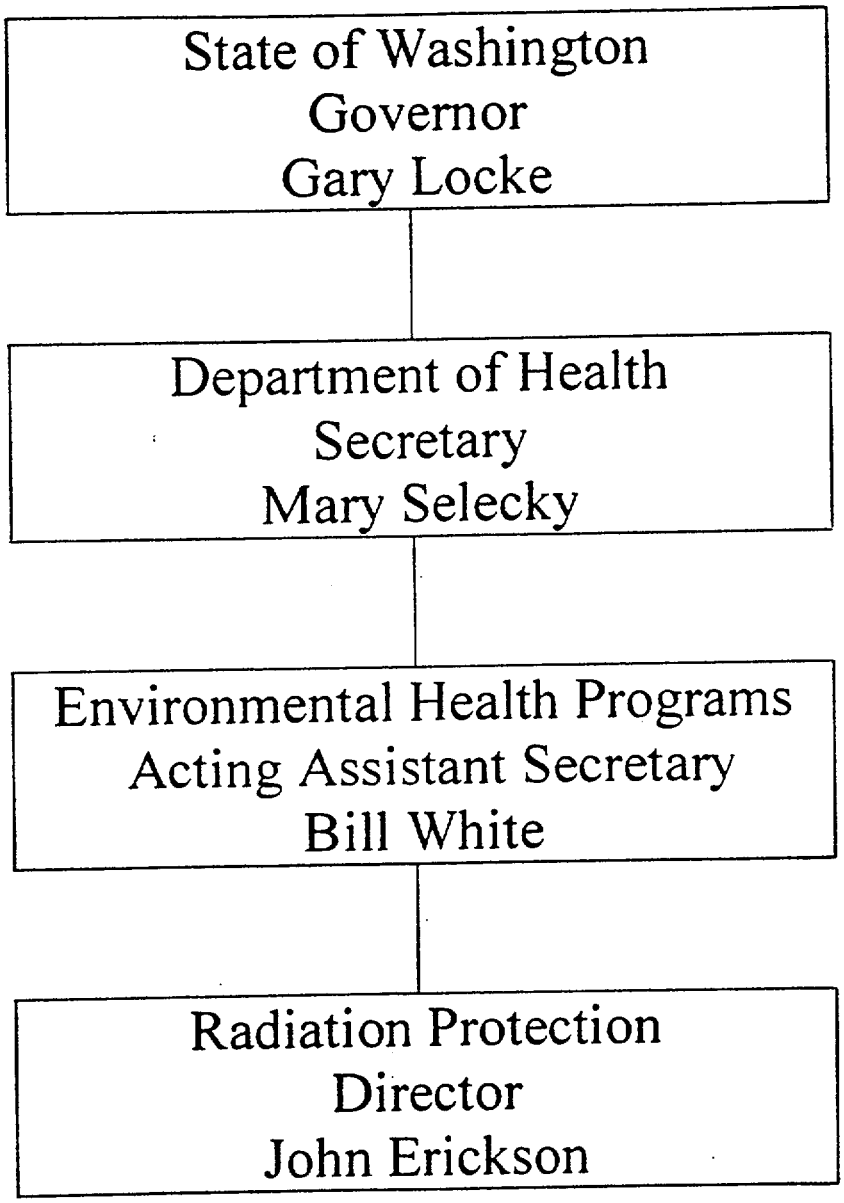


March 15, 1999

Office of the Secretary

Health Officer
Deputy Secretary
Legislative. Policy & Constituent Relations
Minority Affairs
Quality
Local Health
Communications

Washington State



DIVISION OF RADIATION PROTECTION

July 2, 1999

DIVISION DIRECTOR
1003*
J. Erickson

M. Hepburn MA2 D661*

WASTE MANAGEMENT
G. Robertson WMS2 D948*

- E. Fordham EE3 GW81+
- M. Elsen RHP3 DK71*
- ~~Vacant~~ D. Darling RHP3 D845* (H64)
- J. Ahmad RHP2 B652*
- M. Dunkelman RHP2 0522*
- D. Stoffel HG4 F517*
- K. Felix SS GV21*
- J. Blacklaw EE3 0544*
- J. Riley HG3I 0955^
- D. Wells RI3I 0956*
- ~~N. Darling HG4 P135*~~
- B. Walsh OTdu GV21*

RADIOACTIVE MATERIALS
T. Frazee WMS2 F844*

- C. DeMaris RHP3 GA17*
- L. Wainhouse RHP3 F843*
- A. Scroggs RHP3 D821*
- B. Verellen RHP3 D908*
- B. Busby RHP2 GM17*
- P. Walsh ES2 D858*
- D. Dodson SSII GK28*
- N. Burgin OAIdu GK28

X-RAY
M. Odlaug WMS2 D788#

- K. Cameron RHP3 GU42+
- B. Pike RHP3 GM23^
- J. Self RHP3 GW79*
- S. Mantyla RHP2 GX50*
- M. Radonich RHP2 0953#
- B. Rountree RHP2 EA65*
- B. Van Pelt RHP2I 0954#
- D. Warner RHP2 GM11#
- S. Maxim RHP1 GJ65*
- A. Jenkins ES2 0881*
- J. Paulsen SS GM19#
- G. Kovach OAS KS53*

NUCLEAR SAFETY
S. May WMS2 F475*

- D. Cowley NE GX47*
- B. Kreger NEI D907#
- M. Henry RHP3 GX49+
- M. Robertson RHP3 0524#
- A. Jeffries RI3 GM18#
- B. Clark RHP2 0521+
- A. Grumbles RHP2 GW82*
- Vacant RHP1 GX48+
- K. Butowicz SS DC48*

AIR EMISSIONS AND DEFENSE WASTES
A. Conklin WMS2 D918*

- R. Acselrod RHP3 0592+
- K. Fox-Williams RHP3 D875*
- C. Grant RHP3 0593*
- C. Lawrence RHP3 0541*
- E. Bricker RHP2 0542*
- J. Martell RHP2 0534+
- J. Berkey RHP2 KS51+
- G. Laws RHP2 GY78+
- J. Schmidt RHP2 1054+
- J. Redman SS 0630*

ENVIRONMENTAL RADIATION
D. McBaugh WMS2 GW80*

- L. Albin RHP3 D852*
- A. Danielson RHP3 0523+
- D. Thatcher RHP3 D840*
- M. Brennan RHP2 GM24*
- D. Jaquish RHP2I GF86+
- S. Van Verst RI3 CZ59*
- S. Langford ES1 C829*
- E. Kramer SS D942*
- S. Grundhoffer OASId GK28*
- C. Card RHP2 P123*

RADIOLOGICAL HEALTH
E. Haas HSA3 BZ38*

- R. Nielson SS P080*
- K. Monte OAS 0552*
- S. Clark ET P127*
- K. Peterson ET P128*
- D. McAbee HPS2I P129*
- C. Green HSA2Iu BZ38*
- J. Blair ET P1**4***
- Vacant ET P145*
- D. Garrett ET P146*
- Y. McDonald ET P147*
- L. Dickson HPS2Id P129*

Tumwater - *
Seattle - #
Richland - +
Spokane - ^

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: ALL INSPECTIONS LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE REVIEW TEAM.

File No.: 1
Licensee: Lab Performance Specialist
Location: Redmond, WA
License Type: Laboratory
Inspection Date: 1/20/98

License No.: WN-L0148-1
Inspection Type: Routine, Announced
Priority: 3
Inspector: BB

Comments:
a) Inspection was performed 9 months past 25% overdue window.
b) Acknowledgment letter not sent to licensee following receipt of corrective actions letter.

File No.: 2
Licensee: Northwest Hospital Gamma Knife Center
Location: Seattle, WA
License Type: Gamma Knife
Inspection Date: 3/17/99

License No.: WN-M0201-1
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: BB

Comment:
a) Field notes do not indicate review of quality management plan and treatment planning data.

File No.: 3
Licensee: Aerofab, Incorporated
Location: Auburn, WA
License Type: Thorium-232 (For Possession Only)
Inspection Date: 2/2/99

License No.: WN-I0315-1
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: RV

File No.: 4
Licensee: St. Joseph Hospital
Location: Seattle, WA
License Type: Medical
Inspection Date: 8/27/97

License No.: WN-M0164-1
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: RV

Comment:
a) Field notes do not indicate review of quality management plan for brachytherapy.

File No.: 5
Licensee: Scientech, Incorporated
Location: Pullman, WA
License Type: Manufacturing & Distribution
Inspection Date: 4/12/99
License No.: WN- I0340-1
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: RV

File No.: 6
Licensee: Inspection Services, Inc.
Location: Kennewick, WA
License Type: Radiography
Inspection Date: 10/29/98 & 11/5/98
License No.: WN-IR064-1
Inspection Type: Routine, Unannounced
Priority: 1
Inspectors: ME, CD

Comment:
a) Licensee remains under "Order to Cease and Desist Operations."

File No.: 7
Licensee: Tacoma Radiology
Location: Tacoma, WA
License Type: Mobile Nuclear Medicine
Inspection Date: 6/12/98
License No.: WN-M0205-1
Inspection Type: Routine, Announced
Priority: 3
Inspector: RV

File No.: 8
Licensee: Seattle Nuclear Medicine
Location: Seattle, WA
License Type: Medical
Inspection Date: 1/25/99
License No.: WN-M0163-1
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: BB

File No.: 9
Licensee: Deaconess Medical Center
Location: Spokane, WA
License Type: Medical
Inspection Date: 8/19/98
License No.: WN-M005-1
Inspection Type: Routine, Unannounced
Priority: 3
Inspector: CD

Comment:
a) Field notes do not indicate review of quality management plan for brachytherapy.

File No.: 10
Licensee: Spokane Central Pharmacy
Location: Spokane, WA
License Type: Nuclear Pharmacy
Inspection Date: 6/2/99
License No.: WN-NP008-1
Inspection Type: Initial, Unannounced
Priority: 1
Inspector: CD

File No.: 11
Licensee: INS Corporation
Location: Richland, WA
License Type: Nuclear Laundry
Inspection Date: 2/18-19/99

License No.: WN-I0414-1
Inspection Type: Routine, Unannounced
Priority: 2
Inspector: LW

File No.: 12
Licensee: Troxler Electronic Labs, Inc.
Location: Puyallup, WA
License Type: Gauge Services
Inspection Date: 2/17/98

License No.: WN-I0466-1
Inspection Type: Routine, Announced
Priority: 3
Inspector: BB

File No.: 13
Licensee: Spokane Industries, Inc.
Location: Spokane, WA
License Type: Radiography
Inspection Date: 6/30/98

License No.: WN-IR049-1
Inspection Type: Routine, Announced
Priority: 1
Inspector: RV

File No.: 14
Licensee: The Boeing Company
Location: Seattle, WA
License Type: Broad Scope (R&D)
Inspection Date: 4/19-21/99

License No.: WN-I005-1
Inspection Type: Routine, Announced
Priority: 1
Inspectors: AS, BB

Comment:
a) Field notes do not indicate review of radiation safety committee meetings and reviews, an overview of licensed activities (scope of the program), or to what extent gamma irradiators were reviewed.

File No.: 15
Licensee: University of Washington
Location: Seattle, WA
License Type: Broad Scope Medical
Inspection Date: 10/13-15/98

License No.: WN-C001-1
Inspection Type: Routine, Announced
Priority: 1
Inspectors: RV, BB, AG

File No.: 16
Licensee: Nucletron
Location: Seattle, WA
License Type: HDR Source Exchange (Reciprocity)
Inspection Date: 4/7/98

License No.: WN-I039-2
Inspection Type: Routine, Announced
Priority: 1
Inspector: AG

Comment:
a) An inspection report was not issued for this inspection.

File No.: 17
Licensee: J.L. Shepherd
License No.: CA-1777-19
Location: Seattle, WA
Inspection Type: Routine, Unannounced
License Type: Irradiator Installation & Service (Reciprocity)
Priority: 3
Inspection Date: 4/7/99
Inspector: BB

File No.: 18
Licensee: Longview Inspection
License No.: ORE-90621
Location: Longview, WA
Inspection Type: Routine, Unannounced
License Type: Radiography (Reciprocity)
Priority: 1
Inspection Date: 1/6/99
Inspector: CD

File No.: 19
Licensee: Yakima Valley Memorial Hospital
License No.: M054-3
Location: Yakima, WA
Inspection Type: Routine, Unannounced
License Type: HDR Brachytherapy
Priority: 3
Inspection Date: 9/22/98
Inspector: RV

Comment:
a) Inspector used a combination of Radioactive Materials Section teletherapy and brachytherapy inspection field notes to document the inspection rather than HDR field notes.

File No.: 20
Licensee: Dawn Mining Co.
License No.: WN-IO43-2
Location: Ford, WA
Inspection Type: Routine, Announced
License Type: Source Material
Priority: 1
Inspection Date: 10/14/97, 10/13/98, 8/12/99
Inspector: EF, DS, ME

File No.: 21
Licensee: Western Nuclear, Inc..
License No.: WN-IO133-1
Location: Washington
Inspection Type: Routine, Announced
License Type: Source Material
Priority: 1
Inspection Date: 3/28/96, 4/3/96, 4/5/96, 6/5/96, 6/26/96 7/2/96, 7/24/96
Inspector: EF, DS, JB

Comment:
a) Inspectors did not document problems with rock placement and rock gradations.

ACCOMPANIMENTS

In addition, the following inspection accompaniments were performed as part of the onsite IMPEP review.

Accompaniment No.: 1
Licensee: Clark County Dept. of Public Works
Location: Vancouver, WA
License Type: Portable Gauge
Inspection Date: 7/28/99

License No.: WN-I094-1
Inspection Type: Routine, Announced
Priority: 5
Inspector: AG

Comment:
a) Inspector unaware of HAZMAT 3-year refresher training requirement.

Accompaniment No.: 2
Licensee: City of Poulsbo
Location: Poulsbo, WA
License Type: Portable Gauge
Inspection Date: 7/29/99

License No.: WN-I0439-1
Inspection Type: Routine, Announced
Priority: 5
Inspector: PW

Accompaniment No.: 3
Licensee: Oridigm Corporation
Location: Seattle, WA
License Type: R&D Laboratory
Inspection Date: 8/2/99

License No.: WN-L0181-1
Inspection Type: Routine, Announced
Priority: 5
Inspector: LW

Accompaniment No.: 4
Licensee: Dendreon Corporation
Location: Seattle, WA
License Type: R&D Laboratory
Inspection Date: 8/3/99

License No.: WN-L0187-1
Inspection Type: Initial, Announced
Priority: 5
Inspector: BB

Accompaniment No.: 5
Licensee: Dawn Mining Co.
Location: Ford, WA
License Type: Source Material
Inspection Date: 8/12/99

License No.: WN-IO43-2
Inspection Type: Routine, Announced
Priority: 1
Inspectors: ME, EF, DS

Accompaniment No.: 6
Licensee: U.S. Ecology
Location: Hanford, WA
License Type: LLRW Disposal
Inspection Date: 8/31/99

License No.: WN-1019-2
Inspection Type: Routine, Announced
Priority: 1
Inspectors: ME, EF

APPENDIX D

LICENSE CASEWORK REVIEWS

NOTE: ALL LICENSES LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE REVIEW TEAM.

File No.: 1
Licensee: Panther Systems
Location: Vancouver, WA
License Type: SS&D Distributor
Date Issued: 4/16/96, 8/20/96, 12/2/96 12/5/96, 3/12/97, 9/5/97

License No.: WN-I0401-1
Amendment No.: 7-12
Type of Action: 5 Amendments, Renewal
License Reviewers: PW, AS

Comment:
a) License renewal amendment number 12 does not list any of the previous SS&D registration information from previous SS&D reviews in the tie-down conditions which are needed for inspection and enforcement considerations. The license was revised to include the tie-down conditions during the week of September 27, 1999.

File No.: 2
Licensee: Boeing
Location: Seattle, WA
License Type: Broad Scope Ind. R&D
Date Issued: 8/21/95, 9/11/95, 5/23/96, 7/2/97 9/19/97, 5/29/98, 5/4/99

License No.: WN-I005-1
Amendment No.: 21-27
Type of Action: 6 Amendments, Renewal
License Reviewer: AS

File No.: 3
Licensee: Professional Services Industries, Inc.
Location: Seattle, WA
License Type: Industrial Radiography/Portable Gauge
Date Issued: 2/23/99

License No.: WN-IR021-1
Amendment No.: 41
Type of Action: Renewal
License Reviewer: AS

File No.: 4
Licensee: Georgia - Pacific West, Inc.
Location: Bellingham, WA
License Type: Fixed Gauge
Date Issued: 10/10/96, 8/11/98

License No.: WN-I036-1
Amendment No.: 19, 20
Type of Action: Amendment, Renewal
License Reviewers: PW, AS

File No.: 5
Licensee: Superior Asphalt Concrete, Company
Location: Yakima, WA
License Type: Fixed Gauge
Date Issued: 3/26/96, 5/19/96

License No.: WN-I0370-1
Amendment No.: 2, 3
Type of Action: Renewal, Amendment
License Reviewer: PW

File No.: 6
Licensee: Taylor Engineering, Inc.
Location: Spokane, WA
License Type: Portable Gauge
Date Issued: 12/11/97, 3/18/98, 2/16/97
License No.: WN-I0293-1
Amendment No.: 8-10
Type of Action: Renewal, 2 Amendments
License Reviewer: PW

File No.: 7
Licensee: Central Washington Hospital
Location: Wenatchee, WA
License Type: Medical, Institutional
Date Issued: 4/29/97, 2/17/98, 7/1/98
License No.: WN-M0171-1
Amendment No.: 9-11
Type of Action: 2 Amendments, Renewal
License Reviewer: CD

Comments:
a) Hospital performs radiopharmaceutical therapy but does not possess dose calibrator.
b) Procedures to ensure that therapy doses within 10 percent of written directive are not addressed in license.

File No.: 8
Licensee: Spokane Cardiology
Location: Spokane, WA
License Type: Medical, Private Practice
Date Issued: 1/22/96, 2/8/96, 2/21/97
License No.: WN-M0158-1
Amendment No.: 11-13
Type of Action: 2 Amendments, Renewal
License Reviewer: CD

Comment:
a) License authorizes facility and authorized user for all diagnostic imaging and localization procedures when licensee only requested cardiac imaging procedures.

File No.: 9
Licensee: Thomas, Dean & Hoskins, Inc.
Location: Spokane, WA
License Type: Portable Gauge
Date Issued: 12/5/95, 8/30/99
License No.: WN-I0455-1
Amendment No.: 1, 2
Type of Action: Amendment, Renewal
License Reviewers: AS, PW

File No.: 10
Licensee: D.M.D., Inc.
Location: Vashon, WA
License Type: Gas Chromatograph
Date Issued: 1/9/96, 12/19/97
License No.: WN-I0417-1
Amendment No.: 2, 3
Type of Action: Amendment, Renewal
License Reviewers: PW, AS

File No.: 11
Licensee: Northwest Hospital Gamma Knife Center
Location: Seattle, WA
License Type: Medical, Gamma Knife
Date Issued: 1/3/97, 6/16/97, 6/26/98
License No.: WN-M0201-1
Amendment No.: 3-5
Type of Action: 2 Amendments, Renewal
License Reviewer: CD

Comment:
a) Licensee did not submit a quality management program.

File No.: 12
Licensee: Northwest Hospital
Location: Seattle, WA
License Type: Broad Scope-Medical
Date Issued: 2/16/96, 9/18/96, 5/16/97, 1/28/98, 3/27/98 4/24/98, 6/17/98, 10/12/98, 5/19/98, 6/4/99, 7/20/99
License No.: WN-M004-1
Amendment No.: 37-47
Type of Action: New, 10 Amendments
License Reviewer: CD

Comment:
a) Amendment 37 is a license upgrade to a broad scope and was treated as a new license.

File No.: 13
Licensee: Yakima Valley Memorial Hospital
Location: Yakima, WA
License Type: Medical, Institutional, HDR, Teletherapy, Blood Irradiator
Date Issued: 8/21/96, 3/11/97, 9/29/97, 7/22/97, 3/15/99, 6/8/99
License No.: WN-M054-3
Amendment No.: 14-19
Type of Action: Renewal, 5 Amendments
License Reviewer: CD

File No.: 14
Licensee: Syncor International Corporation
Location: Seattle, WA
License Type: Nuclear Pharmacy
Date Issued: 5/12/97, 12/15/97, 4/13/98, 2/17/99, 2/19/99
License No.: WN-NP003-1
Amendment No.: 4-8
Type of Action: 4 Amendments, Renewal
License Reviewer: CD

File No.: 15
Licensee: The McAndrews Group, Ltd.
Location: Bellevue, WA
License Type: Portable Gauge
Date Issued: 6/14/96, 10/23/96, 5/27/97, 4/22/98, 9/24/98
License No.: WN-I0477-1
Amendment No.: 0-4
Type of Action: New, 3 Amendments, Termination
License Reviewer: PW

File No.: 16
Licensee: Health Physicist Northwest
Location: Seattle, WA
License Type: Service Consultant
Date Issued: 10/1/97
License No.: WN-L0147-1
Amendment No.: 3
Type of Action: Termination
License Reviewer: LW

File No.: 17
Licensee: Ames Construction
Location: Tukwila, WA
License Type: Portable Gauge
Date Issued: 5/28/96, 11/5/96

License No.: WN-I0388-1
Amendment No.: 2, 3
Type of Action: Amendments, Termination
License Reviewer: PW

File No.: 18
Licensee: The Heart Institute of Spokane
Location: Spokane, WA
License Type: Medical, Private Practice
Date Issued: 12/18/95, 4/14/97

License No.: WN-M0195-1
Amendment No.: 7, 8
Type of Action: Renewal, Termination
License Reviewer: CD

Comment:
a) Department performed a confirmatory close-out survey and found contamination. Required licensee to decontaminate prior to termination of license.

File No.: 19
Licensee: Dynacare Northwest, Inc.
Location: Seattle, WA
License Type: Lab-R&D/In vitro
Date Issued: 1/12/98, 6/3/98, 6/24/98, 12/21/98

License No.: WN-L0116-1
Amendment No.: 8-11
Type of Action: Renewal, 3 Amendments
License Reviewer: LW

File No.: 20
Licensee: PN Services
Location: Richland, WA
License Type: Broad Scope-Industrial, R&D, Waste Technology
Date Issued: 4/30/97, 5/6/99, 6/21/99

License No.: WN-I0252-1
Amendment No.: 11, 12, 13
Type of Action: Renewal, 2 Amendments
License Reviewer: LW

File No.: 21
Licensee: Mason General Hospital
Location: Shelton, WA
License Type: Medical, Institutional
Date Issued: 8/30/99

License No.: WN-M0214-1
Amendment No.: 0
Type of Action: New
License Reviewer: CD

Comment:
a) Licensee was authorized for diagnostic iodine possession and usage when they indicated that they do not want diagnostic iodine.

File No.: 22
Licensee: ICOS Corporation
Location: Bothell, WA
License Type: R&D Laboratory
Date Issued: 12/9/97, 1/27/99

License No.: WN-L0142-1
Amendment No.: 9,10
Type of Action: 2 Amendments
License Reviewer: LW

File No.: 23
Licensee: Epoch Pharmaceutical
Location: Redmond, WA
License Type: In vitro Laboratory
Date Issued: 11/12/96, 10/7/98, 11/3/98

License No.: WN-L0120-1
Amendment No.: 6-8
Type of Action: Amendments, Renewal
License Reviewer: LW

File No.: 24
Licensee: Fred Hutchinson Cancer Research Center
Location: Seattle, WA
License Type: Broad Scope R&D Laboratory, Irradiator
Date Issued: 8/12/97, 2/27/98, 10/20/98, 11/18/98

License No.: WN-L042-1
Amendment No.: 35-38
Type of Action: 4 Amendments
License Reviewer: LW

File No.: 25
Licensee: University of Puget Sound
Location: Tacoma, WA
License Type: Academic
Date Issued: 6/30/95, 3/10/97, 3/3/99

License No.: WN-C002-1
Amendment No.: 23-25
Type of Action: Renewal, 2 Amendments
License Reviewer: DM, LW

File No.: 26
Licensee: ATG Richland Corporation
Location: Richland, WA
License Type: Commercial Waste Processor/Broker/R&D
Date Issued: 12/24/98, 5/24/99

License No.: WN-I0393-1
Amendment No.: 7, 8
Type of Action: 2 Amendments
License Reviewer: GR

File No.: 27
Licensee: C-thru Technologies Corporation
Location: Kennewick, WA
License Type: Manufacture/Distributor
Date Issued: 8/7/95, 1/8/96, 8/29/96, 11/27/97, 3/24/97
5/13/97, 8/25/97, 3/10/98, 10/5/98, 1/20/99

License No.: WN-I0282-1
Amendment No.: 13-22
Type of Action: 10 Amendments
License Reviewer: AS

File No.: 28
Licensee: Dawn Mining Co.
Location: Ford, WA
License Type: Source Material
Date Issued: 1/29/99

License No.: WN-I043-2
Amendment No.: 22
Type of Action: Amendments
License Reviewer: Waste Management Section

File No.: 29
Licensee: Western Nuclear, Inc.
Location: Washington
License Type: Source Material

Date Issued: TER issued June 1998
(Final approval pending licensee
completion of site construction requirements)

License No.: WN-I0133-1
Amendment No.: N/A
Type of Action: Review of reclamation plan and development of TER
License Reviewer: Waste Management Section

APPENDIX E

INCIDENT CASEWORK REVIEWS

NOTE: ALL INCIDENTS LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE REVIEW TEAM.

File No.: 1
Licensee: ATG, Waste Processor
Location: Richland, WA
Date of Incident: 8/17/95
Investigation Date: 8/21-24/95

Incident ID No.: 951121
License No.: WN-I093-1
Type of Incident: Contamination
Investigation Type: Onsite

Summary of Incident and Final Disposition: A night shift radiation technician entered a potentially contaminated facility without the required respiratory protection to collect wipe samples for evaluation. Upon exit, two nasal smears indicated 5000 counts per minute each. He was sent for bioassay analyses, which included a lung count, a whole body count, a liver scan, and a bone scan as well as urine and fecal analyses. The preliminary data indicated approximately 1.33 nanocuries of Am-241 in his lungs. All other employees in the adjacent areas were also tested, but no radioactive material was found to be in their bodies. The State responded with an onsite inspection on August 21, 1995, and ordered the building secured and the work stopped until a complete analysis is done and a written report is reviewed by the State. The licensee cleaned up the affected area and provided a detailed report dated January 8, 1996 and the State closed out the case on January 9, 1996.

File No.: 2
Licensee: Earth Consultants, Inc.
Location: Bellevue, WA
Date of Incident: 7/16/98
Investigation Date: 7/17/98

Incident ID No.: 980812
License No.: WN-L061-1
Type of Incident: Loss of Control
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported that a Troxler moisture/density gauge containing 40 millicuries of americium-241 and 8 millicuries of cesium-137 was hit by the blade of a bulldozer at a temporary job site near Federal Way, Washington. The gauge was not in use at the time and the source rod was in the safe (up) position. Staff from the Division examined the gauge and determined by wipe test that no leakage occurred and that the gauge could be safely returned to the manufacturer for repair.

File No.: 3
Licensee: Deaconess Medical Center
Location: Spokane, WA
Date of Incident: 9/18/98
Investigation Date: 9/30/98

Incident ID No.: 981056
License No.: WN-M005-1
Type of Incident: Unauthorized Maintenance
Investigation Type: Telephone

Summary of Incident and Final Disposition: The licensee reported an equipment problem with an Omnitron/Varian "Varisource" HDR Unit containing an Omnitron 9.5 Curies Ir-192 source. An authorized user noted that the movement of the dummy source wire was not very smooth in a test run before a planned patient treatment and decided to lubricate the catheter with a lubricant (which was unauthorized). This appeared to work initially, since the dummy wire then ran smoothly and the patient treatment was completed successfully. However, when the patient returned on 9/25/98 for another treatment, it was noted that the dummy wire would not advance completely and the unit malfunctioned. Varian personnel determined that the unit was full of a foreign substance which had caused the machine to malfunction and the unit was rebuilt. No patients or personnel received any exposure of any kind from this incident. The State took enforcement action on October 8, 1998 and the licensee's corrective actions were received on November 6, 1998. The license was last inspected on August 19,1998.

File No.: 4
Licensee: Emcon Northwest, Inc.
Location: Spokane, WA
Date of Incident: 4/26/98
Investigation Date: 5/5/98

Incident ID No.: 980537
License No.: WN-I0309-1
Type of Incident: Stolen Material
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported a theft of a Troxler density gauge containing 47.6 millicuries of americium-241 and 9.73 millicuries of cesium-137. The device was secured to the bed of a truck which was locked and secured in a fenced area at the licensee's facility. Local police investigated the robbery. On 5/5/98, the State reported to NRC that a fisherman had spotted the device on an island in the Spokane River in Spokane, Washington directly under a bridge. The gauge had apparently been dropped a distance of roughly 200 feet. Radiation surveys were performed and the gauge was returned to the licensee's Spokane office where staff from the Division examined the gauge and performed a leak test. There was no leakage of radioactive material.

File No.: 5
Licensee: Equilon Puget Sound Refinery
Location: Anacortes, WA
Date of Incident: 11/25/98
Investigation Date: 11/25-26/98
Incident ID No.: 981156
License No.: (General licensee)
Type of Incident: Equipment damage
Investigation Type: Telephone

Summary of Incident and Final Disposition: The licensee reported an explosion and fire at a refinery which caused the loss of six lives and also threatened six generally licensed Kay-Ray source housings. Each housing contained a 500 millicurie Am-Be sealed source. The manufacturer's representative who arrived within 12 hours, and the RSO, who was on site, determined that the sources were not in the explosion area and were not damaged as verified by direct survey, leak test, and shutter on-off test. The sources were locked out pending repair of nearby process equipment. The Division had several telephone conversations with the general licensee and the gauge representative during the 24 hours after the event.

File No.: 6
Licensee: Columbia Asphalt & Gravel Inc.
Location: Yakima, WA
Date of Incident: 8/4/97
Investigation Date: 8/20/97
Incident ID No.: 980831
License No.: WN-I0404-1
Type of Incident: Equipment Damage
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported that a twelve ton asphalt roller smashed a Troxler 3440 moisture/density gauge containing 40 millicuries of Am-Be and 8 millicuries of Cesium-137. The site was secured until Department staff arrived to survey the area and the bits and pieces of the gauge. No release of radioactive material was found. The gauge was returned to the manufacturer for disposal.

File No.: 7
Licensee: Geoengineers
Location: Redmond, WA
Date of Incident: 6/24/98
Investigation Date: 6/25/98
Incident ID No.: 980732
License No.: WN-I0204-1
Type of Incident: Stolen Material
Investigation Type: Telephone

Summary of Incident and Final Disposition: The licensee reported the theft of a Troxler moisture/density gauge model 3440, containing 40 millicuries of americium-241 and 8 millicuries of cesium-137 taken from a temporary job site in Kent, Washington. The gauge had been chained and locked to the wall in the garage of a house being used for storage of construction tools. Entry was obtained by kicking in the side door to the garage. The transportation case was broken and the case was pried open enough to remove the gauge and calibration block. The case remained chained to the wall. Other power tools were also stolen from the garage. Local police investigated the incident. No other follow-up was conducted in view of the circumstances. A formal report was obtained from the licensee and the local police department.

Comment:
a) The file did not contain any information as to whether the device keys were also stolen.

File No.: 8
Licensee: Giles Engineering Associates, Inc.
Location: Bothell
Date of Incident: 8/26/98
Investigation Date: 8/27/98

Incident ID No.: 980922
License No.: WN-IO490-1
Type of Incident: Damaged Device
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported that a CPN moisture/density gauge containing 50 millicuries of americium-241 and 10 millicuries of cesium-137 was struck by a large loader at a temporary job site of a new middle school in Tacoma, Washington. The gauge was not in use at the time of the event. The gauge operator had finished a test using the gauge and while his back was turned, the loader backed into the portable gauge, cracking the case open. The gauge operator immediately isolated the area, initiated notification to the licensee RSO, and contacted the Division. The Division immediately sent staff to investigate, check for contamination, and survey the transport package prior to return to the licensee's office. Damage appeared to be limited to the case. No contamination was found, the packaged gauge was authorized for transport, and was returned to the manufacturer for repair.

File No.: 9
Licensee: Group Health Cooperative
Location: Seattle, WA
Date of Incident: 2/20/98
Investigation Date: 2/20/98

Incident ID No.: 981078
License No.: WN-MO21-1
Type of Incident: Contamination Event
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported that a patient that received 12 millicuries of Iodine-131 was released, and on the way home, the patient became nauseous and vomited in the parking strip of a busy street in Seattle. The patient reported this to the licensee who determined that the patient's car had little to no contamination and that approximately half the dose had been vomited. Due to local weather conditions, an onsite response was delayed until the next day. A Division inspector was able to locate a contaminated spot on the pavement using a survey meter. With exception of a very small spot of non-removable contamination, all the contaminated vomitus had been washed away and no other detectable contamination was found. No member of the public is believed to have been exposed.

File No.: 10
Licensee: Nycomed Amersham Imaging
Location: Seattle, WA
Date of Incident: 11/30/98
Investigation Date: 4/21/99

Incident ID No.: 990338
License No.: WN-NP002-1
Type of Incident: Misadministration
Investigation Type: Next Inspection

Summary of Incident and Final Disposition: The licensee reported three diagnostic misadministrations, involving mislabeled technetium-99m dosages, that were sent to three different hospitals. Upon administration and imaging, it was determined that the radionuclides and dosages were correct, but that the chemical forms were not. All three patients and their referring physicians were notified of the events. The cause of the mislabeling at the pharmacy was determined to be human error. The pharmacist drawing the doses apparently didn't read the label of the vials before filling the syringes.

Comment:
a) The incident was addressed with the licensee during the next inspection, but the file had no details of the corrective actions, or any items of noncompliance related to the event.

File No.: 11
Licensee: none
Location: Seattle, WA
Date of Incident: 6/1/99
Investigation Date: 6/1/99

Incident ID No.: 990345
License No.: NA
Type of Incident: Unlicensed Material
Investigation Type: Onsite

Summary of Incident and Final Disposition: The United States Customs at the Seattle/Tacoma International Airport, reported detaining a passenger whose luggage was detected to be radioactive. The passenger was a physician in-bound from Thailand on his way home to Alaska. The physician admitted that he was carrying I-131 and was taking it to his home in Alaska, where he intended to treat his cat for hyperthyroidism. He did not have a license or any other authorization for the radioactive material. It was determined that the glass vial, containing approximately 6 millicuries of I-131, was being carried with no shielding and appeared to constitute a public health threat. The Department immediately asked the United States Customs to seize the material under state law prohibiting possession of radioactive material without a license. The Division responded, conducted surveys, placed the vial in a lead shield. No contamination was detected. Based on interviews with the physician, United States Customs and airline staff, there were no overexposures associated with this event. The two situations having the most potential for exposures were: 1) the physician and possibly a US Customs official who handled the bare vial. These two individuals had an estimated dose of 300 millirem to the fingers and a whole body dose of less than 10 millirem; and 2) a passenger seated directly above the baggage hold for the 10 hour flight had an estimated whole body dose of less than 5 millirem.

File No.: 12
Licensee: Professional Service Industries, Inc.
Location: Seattle, WA
Date of Incident: 12/16/98
Investigation Date: 12/17/98

Incident ID No.: 981231
License No.: WN-IR021-1
Type of Incident: Overexposure
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported an overexposure to a contractor employee (member of the public) to a 60 Curie, Iridium-192 radiography source while working in the parking garage of an office building in Seattle, Washington. During one shot, one of the contractor employees approached the source collimator and caused the collimator to become dislodged from the source guide tube. The contractor employee reassembled the source and guide tube before the radiographer became aware of the situation. The radiographer immediately shouted a warning, retracted the source, began an immediate investigation, including an re-enactment, and notified the Division. Preliminary dose estimates for the extremities range from 600 to 1,700 rem. The whole body exposure is estimated to be approximately 50 rem. The Division responded to the event, conducted a re-enactment, and estimated that the individual received less than 5 rem whole body, 680 rem to the right thumb, 100 rem to the right index finger, and 170 rem to the palm of the left hand. A cytogenetic study verified that the whole body dose was in the range of less than 1 to 15 rem. No physical signs of radiation damage to the contractor employee's hands were observed during the weeks following the exposure. The cause of the incident is attributed to the inattention of the radiographer. The licensee committed to re-train and complete an accelerated schedule of field audits on radiography personnel prior to resumption of radiography. Depositions were taken and arrangements were subsequently made for an analysis by REACTS. Enforcement actions were taken on December 22, 1998.

File No.: 13
Licensee: Providence Medical Center
Location: Seattle, WA
Date of Incident: 12/16/98
Investigation Date: 3/8/99

Incident ID No.: 990084
License No.: WN-M045-1
Type of Incident: Misadministration
Investigation Type: Next Inspection

Summary of Incident and Final Disposition: The licensee reported a misadministration involving a clinical trial of the Guidant Intravascular Radiotherapy project and a dose to an unintended treatment site. The project uses a modified Nucletron high dose rate afterloader and an Omnitron International, Inc. phosphorus-32 brachytherapy source with an activity of approximately 150 millicuries. Following a planned treatment, the Guidant Coordinator informed the licensee that the new catheter required the use of a different connector on the front end of the device, and if this connector was not used, the source would not be at the proper treatment site and therefore this treatment would not have been correct. The licensee's review indicates that the source was approximately 34 cm from the intended treatment site. The licensee's estimated dose to the vessel wall was between 7,000 rad and 10,800 rad. Items of concern about the misadministration include: (1) the inability to confirm the location of the source using fluoroscopy when fluoroscopy visualization is indicated in the project's description and procedures as an essential verification for the use of this device; and (2) the incomplete training and direction provided to the licensee by the Guidant personnel when device equipment changes were made on 12/16/98. The licensee discontinued the project until the new source wire was in place and thoroughly tested for visibility under fluoroscopy. The Division conducted an investigation (follow up) during the next inspection and verified the corrective actions.

File No.: 14
Licensee: Spokane County Engineering
Location: Spokane, WA
Date of Incident: 10/15/97
Investigation Date: 11/3/97

Incident ID No.: 980832
License No.: WN-I061-1
Type of Incident: Lost Material
Investigation Type: Enforcement Letter

Summary of Incident and Final Disposition: The licensee reported the loss of a CPN moisture/density gauge containing 50 millicuries of americium-241 and 10 millicuries of cesium-137. A field technician failed to secure the gauge and its transportation case in the back of a pickup truck during transport. The gauge fell off the tailgate on the return trip to the office. The gauge was recovered by a Spokane area contractor shortly thereafter and prior to the licensee initiating a search that same evening. The contractor called the licensee the next morning and the gauge was retrieved. Damage to the gauge shell was noted but no leakage of radiation occurred.

File No.: 15
Licensee: Washington State University
Location: Pullman, WA
Date of Incident: 8/5/98
Investigation Date: 8/798

Incident ID No.: 980867
License No.: WN-C003-01
Type of Incident: Release of Licensed Material
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee reported the release of low-level radioactive waste solution from the sewer line used for the discharge from research laboratories to the sanitary sewer. On 8/5/98, it was discovered that the sewer line used for the discharge had been broken by a backhoe working in the area sometime in the previous two years and the discharge was creating a small channel down the hillside near the facility. The total volume of the discharge was small with most of the water coming from a sump pump for cooling tower condensate. The licensee stopped further discharges of radioactive waste and took prompt action to identify the extent of contamination, assess the radiological hazard, and complete the clean-up. Initial clean-up consisted of removal of fourteen barrels of contaminated soil. The licensee contracted with an independent firm to perform a site assessment to aid in determining the nature and extent of decontamination work needed. A site specific clean-up plan was developed after consultation with the Division. The Division conducted confirmatory surveys of the soil and vegetation following the licensee's clean-up.

File No.: 16
Licensee: Harrison Memorial Hospital
Location: Bremerton, WA
Date of Incident: 9/11/98
Investigation Date: 9/11/98

Incident ID No.: 981079
License No.: WN-M0168-1
Type of Incident: Contamination Event
Investigation Type: Telephone

Summary of Incident and Final Disposition: The Division reported that a patient received a 20 millicurie dose of I-131 from the licensee and was released from that facility. On the way home, the patient became nauseous and vomited in the dirt at the street-side near a church school parking lot. The patient reported this to the licensee who went to the site and confirmed that approximately half the dose had been vomited into the dirt. The licensee roped off the area, consulted with the Division and cleaned up the site by digging up and double-bagging the contaminated dirt, and subsequently held for decay at the licensee's facility. No member of the public is believed to have been exposed. A follow-up report was received from the licensee, and the Division determined that appropriate actions were taken.

File No.: 17
Licensee: University of Washington
Location: Seattle, WA
Date of Incident: 11/21/98
Investigation Date: 2/24/99
Incident ID No.: 990329
License No.: WN-C001-1
Type of Incident: Lost Source
Investigation Type: Report Review

Summary of Incident and Final Disposition: The licensee reported the loss of a Perkins-Elmer gas chromatograph source containing 15 millicuries of Ni-63. The licensee reported that an "ownerless" surplus gas chromatograph (and detector cell) was stored in a hallway at the University. An inventory check in late December 1998, noted that the unit was no longer in the hallway and was presumed to have been put into better storage. By late January 1999, further checking revealed that the unit had probably been taken to the licensee's Surplus Property Department. Records indicated that the unit could have been sold at auction on 11/21/98 but contacts with the buyers at the sale failed to produce the source. The licensee's RSO believes that the unit was most likely discarded in the trash in November either by the licensee's Surplus Property Department or by one of the buyers. The Division determined that there is little likelihood of human exposure to the radioactive source if it was sent to the landfill for disposal with the other trash. The Ni-63 source was last leak tested on 9/19/98, and had no indication of leakage. No enforcement action was taken.

File No.: 18
Licensee: General Testing Laboratories, Inc.
Location: Poulsbo, WA
Date of Incident: 1/15/96
Investigation Date: 1/17/96
Incident ID No.: WA-96-007
License No.: WN-I0100-1
Type of Incident: Lost Source
Investigation Type: Onsite

Summary of Incident and Final Disposition: The licensee notified the Division by telephone that a portable Troxler gauge fell from a vehicle during transit and was temporarily lost for 5 hours on the day of the incident. The device contained 8.5 millicuries of cesium-137 and 4 millicuries of americium-241. The Division's conversation records show that the device was recovered on the same day by another truck driver. The State responded to the incident and conducted surveys and a leak test. The licensee conducted an operational test. Based on the surveys and tests, the device was determined to be operational and not leaking. The incident was not reported to the NRC because the licensee recovered the device later the same day. The Division took appropriate enforcement action.

File No. 19
Licensee: Nuclear Support Services
Location: Lakewood, WA
Date of Incident: January 1, 1996
Investigation Date: January 1, 1996
Incident ID No.: not applicable
License No.:WN-I0387-1
Type of Incident: Improper Disposal
Investigation Type: Onsite

Summary of Incident and Final Disposition: A Seaman Nuclear density gauge was improperly disposed in a dumpster. The device was removed from the location. The Sheriff is investigating for possible illegal dumping.

File No. 20
Licensee: U.S. Ecology
Location: Richland, WA
Date of Incident: May 2, 1996

Incident ID No.: not applicable
License No.: WN-I019-2
Type of Incident: Contaminated material outside of the restricted area.

Investigation Date: May 2, 1996

Investigation Type: Onsite

Summary of Incident and Final Disposition: A 23-foot trailer being refurbished was surveyed prior to being removed from the restricted area; however, after being removed from the restricted area contamination was found under a ½-inch thick particle board. The contamination was found not to be loose contamination; therefore, the trailer was properly marked, and the contaminated area was covered with plywood.

File No. 21
Licensee: Dawn Mining Co.
Location: Ford, WA
Date of Incident: 4/10/96
Investigation Date: 4/10/96

Incident ID No.: not applicable
License No.: WN-IO43-2
Type of Incident: Spill
Investigation Type: Onsite

Summary of Incident and Final Disposition: The incident involved the spillage of two gallons of mildly radioactive sludge along a State highway. The incident was resolved within a matter of hours when Waste Management Section staff arrived at the scene and verified the licensee's clean-up of the spill. Final resolution was documented, and all activities were coordinated with the Spokane Tribe.

File No. 22
Licensee: Dawn Mining Co.
Location: Ford, WA
Date of Incident: 7/27/99
Investigation Date: 7/27/99

Incident ID No.: not applicable
License No.: WN-IO43-2
Type of Incident: Pipe break
Investigation Type: Onsite

Summary of Incident and Final Disposition: The incident involved a pipe break and release of 1000 gallons of fluid on the licensee's property. The incident was resolved when Waste Management Section staff arrived promptly at the scene, concluded that no fluids were released outside the tailings disposal area, and verified licensee clean-up of the spill.

APPENDIX F

SEALED SOURCE AND DEVICE CASEWORK REVIEWS

NOTE: ALL SEALED SOURCE AND DEVICE CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY; NO SIGNIFICANT COMMENTS WERE IDENTIFIED BY THE IMPEP TEAM

File No.: 1
Registry No.: WA-0296-D-105G
Manufacturer: TAPIO Technologies, Inc.
Date Issued: 6/17/96
SS&D Type: Gamma Gauge
Model No.: AS-1H13

File No.: 2
Registry No.: WA-0296-D-106G
Manufacturer: TAPIO Technologies, Inc.
Date Issued: 11/30/96
SS&D Type: Beta Gauge
Model No.: BW-2h55 and BW-5h23

File No.: 3
Registry No.: WA-0296-D-107-G
Manufacturer: TAPIO Technologies, Inc.
Date Issued: 3/14/97
SS&D Type: Beta Gauge
Model No.: BW-K2h52

File No.: 4
Registry No.: WA-653-D-102-S
Manufacturer: C-Thru Technologies Corporation
Date Issued: 1/20/99
SS&D Type: X-Ray Fluorescence
Model No.: MAP-3 Series

Comments:

a) The registry sheet had only "Amended" and should have "AMENDED IN ITS ENTIRETY" as discussed in NUREG 1556, Volume 3.
b) The electronic version of the sheet amendment did not have a "diagram" (it was blank), and the original file copy had a cut and paste diagram on the registry sheet. The State's file copy had the diagram.
c) The "Limitations and other considerations of use" section on the registry sheet had an old reference to the "SCITEC Corporation" instead of the new company name.

File No.: 5
Registry No.: WA-0653-D-106-B
Manufacturer: C-Thru Technologies Corporation
Date Issued: 1/20/99
SS&D Type: X-Ray Fluorescence
Model No.: MAP-4 Series

APPENDIX G

WASHINGTON'S QUESTIONNAIRE RESPONSE

Approved by OMB[1]
No. 3150-0183
Expires 5/31/2001

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

QUESTIONNAIRE

Name of State: Washington
Reporting Period: June 23, 1995 through September 3, 1999
DATA given is VALID as of June 23, 1999

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.

Licensee Name	Insp. Frequency (Years)	Due Date	Months O/D
Cardiovascular Consult.	2	May 31, '99	1 month (initial)

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.

   All overdue inspections are noted and discussed at semi-monthly staff meetings. The overdue inspection noted, was being held for use as an inspector accompaniment opportunity; it is scheduled for the month of July.

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.

   Group -- Nuclear Medicine -- priority 2 (NRC is priority 3) per supervisor
   Group -- R&D Labs -- priority 3 (NRC is priority 5) per supervisor

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[1] Estimated burden per response to comply with this voluntary collection request: 45 hours. Forward comments regarding burden estimate to the Information and 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.

Group -- Portable Gauges -- priority 4 (NRC is 5) per supervisor
Group -- Fixed Gauges -- priority 4 (NRC is 5) per supervisor
Group -- Blood Irradiators -- priority 4 (NRC is 5) per supervisor
Group -- Gas Chromatographs -- priority 5 (NRC is 7) per supervisor
Washington State University -- priority 1 (NRC is 2) Major broad scope
Battelle Memorial Institute -- priority 1 (NRC is 2) Major broad scope
NeoRx Corp. -- priority 1 (NRC is 2) Major broad scope
Fred Hutchinson Cancer -- priority 1 (NRC is 2) Major broad scope
Interstate Nuclear Laundry -- priority 1 (NRC is 2) Major laundry
Genelex Corp. -- priority 1 (NRC is 3) Major R&D, manufacturer
Moravek Biochemicals -- priority 1 (NRC is 3) Major manufacturer
C-Thru Technologies -- priority 1 (NRC is 3) Major manufacturer
Acrowood Corp. -- priority 1 (NRC is 3) Major manufacturer
AlliedSignal Avionic -- priority 1 (NRC is 5) Major manufacturer
NW Hospital Gamma Knife -- priority 1 (NRC is 3) New technology
ATG (Yakima) -- priority 1 (NRC is 3) pending D&D closeout
Western Fire & Safety -- priority 1 (NRC is 5) escalated oversight
Eisenhart -- priority 4 (NRC is 3) installation, maintenance of fixed gauges
Troxler Electronics -- priority 4 (NRC is 3) training, sales demo of portable gauges
Hevley -- priority 4 (NRC is 3) training, service of portable gauges
Siemens Medical Systems -- priority 4 (NRC is 3) sales demo, set-up & calibr.

These are our "official priorities". We have set an administrative goal of inspecting priority 2 licenses annually, and priorities 3 and 4 licenses every other year.

There are no licensees in the Waste Management Section that are inspected more or less frequently than required by the U.S. Nuclear Regulatory Commission. However, certain licensees in both the Materials Section and the Waste Management Section are inspected in "piecemeal" fashion. These include the LLRW facility, ATG, WSU and the University of Washington. Over the course of a year, the entire program is reviewed.

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	1995 5 1996 6 1997 6 1998 6 1999 3 (TO DATE)	1995 0 1996 0 1997 2 1998 3 1999 2 (TO DATE)
1	1995 4 1996 3 1997 2	1995 1 1996 2 1997 2

Priority	Number of Licensees Granted Reciprocity Permits Each Year	Number of Licensees Inspected Each Year
	1998 3 1999 1 (TO DATE)	1998 2 1999 2 (TO DATE)
2	1995 1 1996 1 1997 0 1998 0 1999 0 (TO DATE)	1995 0 1996 0 1997 0 1998 0 1999 0 (TODATE)
3	1995 14 1996 11 1997 11 1998 9 1999 4 (TO DATE)	1995 0 1996 0 1997 0 1998 2 1999 3 (TO DATE)
4	1995 18 1996 21 1997 22 1998 24 1999 13 (TO DATE)	1995 0 1996 0 1997 0 1998 3 1999 0 (TO DATE)
All Other	NONE	NONE

5. Other than reciprocity licensees, how many field inspections of radiographers were performed?

   From January 1995 through May 1999, 24 radiography field inspections of licensees were performed.

6. 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.

   Per sections B. III. 34. and B. IV. 35., the goal for inspections in the Waste Management Section is to complete all LLW and uranium mill inspections once per year. This goal has been attained.

II. Technical Quality of Inspections

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

ALL PROCEDURES ARE CURRENTLY IN THE PROCESS OF BEING REVIEWED AND UPDATED. Inspection checklists for the LLRW facility have been updated and are currently in use. Inspection checklists for the Dawn uranium mill and the mine have been developed but are currently under revision due to the renewal of these licenses. An inspection checklist for ATG has been developed and is currently being revised. A procedure on Root Cause Analysis has been added and revisions are currently underway for Handling Incidents and Allegations, Training, Confidentiality, and Escalated Enforcement.

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

Inspector	Supervisor	License Cat.	Date
(Radioactive Materials Section)			
DeMaris	Frazee	HDR	12/95
Waite	Frazee	Lab	12/95
Scroggs	Frazee	Lab	12/95
McBaugh	Frazee	Academic Broad	12/95
Walsh	Frazee	Port. gauge	12/95
Verellen	Frazee	Port. gauge	12/95
Walsh	Frazee	Port. gauge	7/96
Elsen	Frazee	Port. gauge	12/96
Wainhouse	Frazee	Academic limited	12/96
(plus Elsen, Verellen, DeMaris by peer accompaniments in 1996)			
Scroggs	Frazee	Radiography	3/97
Grumbles	Frazee	Port. gauge	11/97
Verellen	Frazee	Radiography	12/97
DeMaris	Frazee	Cardiology	12/97
(plus Scroggs, Walsh, and Wainhouse by peer accompaniment in 1997)			
Busby	Frazee	Lab	3/98
Scroggs	Frazee	Port. gauge	4/98
Walsh	Frazee	Port. Gauge	12/98
Wainhouse	Frazee	Lab close-out	12/98
(plus Verellen, DeMaris, Gumbles, and Elsen by peers in 1998)			
(Waste Management Section)			
Fordham	Robertson	On-site LLRW duties	12/95
Ahmad	Robertson	On-site LLRW duties	1/96
Elsen	Robertson	On-site LLRW duties	1/96

Fordham	Elsen	On-site LLRW duties	6/96
Blacklaw	Robertson	PE duties at DMC	2/97
Elsen	Robertson	LLRW facility	5/97
Stoeffel	Robertson	Hydro duties DMC	5/97
Fordham	Robertson	LLRW facility	5/97
Blacklaw	Robertson	PE duties at DMC	3/98
Stoeffel	Robertson	Hydro duties DMC	3/98
Fordham	Robertson	LLRW facility	6/98
Elsen	Robertson	LLRW facility	6/98
Elsen	Robertson	LLRW facility	6/99

9. Describe internal procedures for conducting supervisory accompaniments of inspectors in the field. If supervisory accompaniments were documented, please provide copies of the documentation for each accompaniment.

For the Materials Section, staff needing accompaniment are asked to provide a list of upcoming inspections and the supervisor chooses a conveniently located and representative inspection. The supervisor accompanies the inspector and observes all aspects of the inspection. Notes are made during the accompaniment and the inspector is informed of any findings immediately following the inspection. A summary form is prepared and filed to document the accompaniment. These documents are available for NRC review in the office.

For the Waste Management Section, draft procedures require that the supervisor or designated senior inspector accompany each inspector at least once per year. Senior inspectors are accompanied by the supervisor once every three years. The supervisor evaluates how well the inspector has prepared for the inspection, and debriefs with the inspector prior to closeout with management to make sure that the items of noncompliance are clear and correct. After the inspector prepares the Notice of Correction, the supervisor reviews the items of noncompliance with the inspector. The response letter as well as the inspection report is reviewed and the report is then closed out. The accompaniment is documented on the Inspector Field Evaluation form.

10. 10. Describe or provide an update on your instrumentation and methods of calibration. Are all instruments properly calibrated at the present time?

All field staff have available as their basic instruments ion chambers, GM meters and scintillators. Typical instruments, including multiple backup units of each, are Eberline's RO-2, Technical Associates' TBM-3s, and Ludlum's Models 2 and 19 microR meters. Other brands and models are also represented in our panoply of instrumentation including portable MCAs, low energy scintillation probes, alpha meters and a neutron meter.

All survey instruments for the Radioactive Materials Section are tracked in a database which includes the calibration due date. Instruments in need of calibration are collected and delivered twice a month to the Northwest Radiation Instrument Calibration Facility at the University of Washington. All instruments in use are currently in calibration.

Instruments in the Waste Management Section are sent directly to Ludlum for calibration. At the present time, three (3) instruments are at Ludlum for calibration. Only one instrument is not in calibration. That instrument is the Femto-Tech Radon detector.

III. Technical Staffing and Training

11. 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:

Name	Position	Area of Effort	FTE%
(Materials)			
T. Frazee	WMS2	Administration	100%
C. DeMaris	HP3	Medical Lic/Compl	100%
L. Wainhouse	HP3	Lab Lic/Compl	100%
A. Scroggs	HP3	Indust. Lic/Compl	100%
R. Verellen	HP3	Investigations	100%
B. Busby	HP2	Inspections	100%
P. Walsh	ES2	Research/Lic/Compl	50%
A. Grumbles	HP2	Inspections	30%
M. Elsen	HP3	Inspections	10%
J. Blacklaw	EE3	SS&D PE	1%
		TOTAL	6.91
(Radwaste)			
G. Robertson	WMS2	Administration	50%

M. Elsen	HP3	Licensing/HP	75%	
A. Thatcher	HP3	Performance Assess.	95%	
J. Ahmad	HP2	Licensing/Engr	45%	
E. Fordham	EE3	Compliance/Engr	50%	
M. Dunkelman	HP2	Lic/Compl/Geologist	50%	
J. Blacklaw	EE3	Engineering	24%	
N. Darling	Geohydr.	EIS	45%	
D. Stoffel	Geohydr.	Lic/Comp/Closure	25	
J. Riley	Geochem.	Performance Assess.	3%	
Others combined		Environmental	10%	
Others combined		Laboratory	50%	
U.S. DOE		Performance Assess.	75%	
		TOTAL	6.97	

(Uranium Mills)

G. Robertson	WMS2	Administration	50%	
J. Ahmad	HP2	Closure	18%	
M. Elsen	HP3	Compliance	15%	
D. Stoffel	Geohydr.	Lic/Comp/Closure	75%	
J. Blacklaw	EE3	Closure/Compliance	75%	
E. Fordham	EE3	Closure		20%
N. Darling	Geohydr.	Closure		5%
D. Wells	RI3	Performance Assess.	3%	
J. Riley	Geochem.	Closure		2%
Others combined		Environmental	10%	
Others combined		Laboratory	50%	
		TOTAL	3.23	

12. 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.

Bruce Busby --MS, Radiological Health; BS, Physics (emphasis in HP); Radiological Supervisor training (1987), Naval Nuclear Power training (1982-1984); over 15 years experience in health physics and related fields; and has passed part 1 of CHP exam.

Anine Grumbles -- BA, Nutrition; Nuclear Power Plant HP, 5 years; NBC Officer, US Army Reserves, 8 years; WA Division of Radiation Protection emergency response program, 8 years.

Nancy Darling -- BS, Hydrology/Soils Science

Doug Wells -- Ph.D. Physics

Drew Thatcher -- MS Health Physics, C.H.P.

13. 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.

Bruce Busby -- needs NRC's Nuclear Medicine course (scheduled for August 1999), Licensing Practices and Procedures course (anticipated for FY 2000), and Tele/brachytherapy course (anticipated for FY 2000).

Anine Grumbles -- needs Licensing Practices and Procedures course (anticipated FY 2000), Industrial Radiography, and Tele/brachytherapy course (anticipated for FY 2001).

In general, for the Radioactive Materials Section, the qualification requirements for license reviewer/materials inspector are: completion of NRC "core courses"; on-the-job training; and demonstrated ability over a series of different license types for both licensing and inspection duties.

Since the Waste Management Section only has four licensees, it has been determined that there will be only two senior lead inspectors, who are required to meet the license reviewer/materials inspector criteria. All other staff provide technical assistance for the senior lead inspectors during team audits. The senior inspectors are Earl Fordham and Mike Elsen; both are fully trained. Other Waste Management staff receive training as feasible.

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

Alex Waite, April 1997

Sheila Pachernegg

15. 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.

There are no vacancies in the Materials Section.

Although there is currently one vacant position listed in the organization chart for the Waste Management Section, it is actually being filled by several intermittent staff (Doug Wells, John Riley, Brigid Walsh).

IV. Technical Quality of Licensing Actions

16. 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.

Biocoll Laboratories -- L0166-1; termination of large lab -- 3/98
Biomembrane institute -- L0124-1; termination of large lab -- 7/96
Boeing -- I005-1; renewal of broad scope licensee -- 5/96
Bristol-Myers Squibb -- L098-1; renewal of large lab -- 7/95
Bristol-Myers Squibb -- L098-1; termination of large lab -- 1/98
Corixa Corp. -- L0169-1; amend to add 125mCi In-111 for R&D -- 9/95
Group Health -- M021-1; renewal of major medical facility -- 2/97
Hot Cell Services -- I0163-1; renewal of decon licensee -- 10/98
ICOS Corp. -- L0142-1; amend for second location, increased possession -- 1/99
Inland Cancer care -- L0184-1; new R&D, source manufacturer -- 5/98
Inland Cancer Care -- L0184-1; amend for new xenon process -- 6/99
Interstate Nuclear Services -- I0414-1; renewal of laundry -- 2/99
Moravek Biochemicals -- L0183-1; new manufacturer, tagged compounds -- 6/98
NeoRx Corp. -- L0114-1; amend to add Ra-224 generator -- 4/97
NeoRX Corp. -- L0114-1; renewal of broad scope R&D -- 4/99
Northwest Hospital -- M004-1; amend to add hoods for I-131 use -- 9/96
Northwest Hospital -- M004-1; amend to add Ra-223 for research -- 3/98
Northwest Hospital Gamma Knife -- M0201-1; renewal -- 4/98
Pacific Nuclear - PN Services --I0252-1; renewal of broad scope -- 4/97
Panther Systems -- I0401-1; renewal of device manufacturer -- 9/97
Providence Medical - Seattle -- M045-1; renewal of major facility -- 9/97
Qualls -- L0161-1; renewal of field study licensee -- 6/99
Siemens Power Corp. -- I062-1; renewal of major facility -- 4/98
University of Washington -- C001-1; closeout primate research center -- 4/97
Washington State University -- C003-1; field use study authorized -- 8/98

Washington State University -- C003-1; field use study authorized -- 5/99
Weyerhaueser Technology Center -- L083-1; renewal of major facility -- 5/99
Yang Laboratory -- L045-1; termination of in vitro test kit manufacturer -- 6/96
Zymogenetics -- L0101-1; renewal of large lab -- 1/98

US Ecology, Inc. I019-2
Amendment # 24- October 6, 1997- transfer of SNM license from USNRC to WDOH.

Dawn Mining Company, license # WN-I043-2 (uranium mill)
Amendment #22- January 29, 1999- license renewal.
Amendment # 21- June 1, 1998 - amended to include highway mitigation. for the transport of 11.e.(2) material.

Western Nuclear, Inc., I033-1
Amendment #31 - March 12, 1998 - amended in entirety, deleted several unnecessary license conditions due to mill reclamation.
Amendment #30 - December 18, 1996 - amended to reduce environmental sampling requirements.

Allied Technology Group, I0393-1 (waste processor/broker)
Amendment #5 - February 27, 1998 - change in license expiration date, license activity increase, new RSO, change in authorized users, AROM, and operating procedures. Added return clause to license. Removed RTG portion.
Amendment #7 - December 28, 1998 - increased site activity limits, changed RAM onsite time limit, authorized users and updated operating procedures list. Added Emergency Plan and Safglas treatment.
Amendment #8 - May 24, 1999 - increased levels for specific isotopes and lowered source material limits, updated AROM, administrative and operating procedures, delineated site storage area requirements, and added standard LLRW disposal site license conditions.

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

No variances or exemptions were granted by the Radioactive Materials Section.

LLW LICENSE VARIANCES REQUESTED 1995-1999

ACTION	DATE REC'D	COMPANY	SUBJECT	APPROVED

V-1-95	2/14/95	National Science Foundation	solidification of biologicals	Y
V-2-95	3/6/95	Supragen	solidification of biologicals	Y
V-3-95	5/22/95	Volvo GM	use of supersacks for NARM	Y
V-4-95	6/1/95	WPPSS	engineered barriers for chelates	Y
V-5-95	6/12/95	USE	Storage of waste > 6 months	Y
V-6-95	6/30/95	USE/ Ft. St. Vrain	Storage of waste > 6 months	Y
V-96-01	6/11/96	USE	chelates in engineered barriers	Y
V-96-02	8/12/96	USE	Extend audit of vendor (Siemens)	Y
V-1-97	1/22/97	ATG	dispose oil >10% by weight	Y
V-2-97	2/11/97	ATG	dispose of vials layered in sorbent	Y
V-6-97	7/21/97	PGE	dispose of concrete blocks	Y
V-8-97	9/2/97	US Army	exempt source material for backfill	N
V-10-97	9/30/97	US Army	aircraft parts with no container	Y
V-11-97	11/24/97	EMC	packaging biological waste	N
V-6-98	3/2/98	EMC	absorbed/solidified lqd. As DAW	Y
V-9-98	3/19/98	Pearl Harbor NS	disposal of solidified oil	Y
V-15-98	9/8/98	US Airforce	aircraft parts with no container	Y
V-16-98	9/28/98	US Navy	missile & aircraft parts	Y
V-17-98	10/8/98	PGE	concrete blocks with no container	Y
V-18-98	10/15/98	Moravek Biochemical	Class B& C with Aquaset	N
V-20-98	12/1/98	Lockheed Martin	aircraft & missile parts	Y
V-23-98	11/25/98	Siemens	SNM not uniformly distributed	N
V-2-99	4/9/99	USE	design of trench 12A	Y

License variances issued to ATG, Richland
June 1995 to present

Date of Letter	Subject	Approved: Y/N
11/15/95	Allow increase in Pu onsite to 0.0228 grams	Y
9/18/96	Add liquid to chemical form for store-for-decay material	Y
12/17/96	Increase Ra-226 activity limit to 225 mCi	Y
4/30/97	Processing schedule for eliminating waste backlog	Y
6/24/97	Increase Ra-226 activity limit to 200 mCi	Y
7/1/97	Increase Ra-226 activity limit to 350 mCi	Y
1/6/98	Increase Ra-226 activity limit to 350 mCi	Y
1/22/98	Increase Zn-65 activity to 4 Ci	Y
2/5/98	Increase Ra-226 activity limit to 350 mCi	Y
7/16/98	Increase C-14 activity limit to 10 Ci	Y

9/30/98	Continuation of increased C-14 activity limit at 10 Ci	Y
11/30/98	Increase in Zn-65, Fe-55, and Cs-137 activity limits	Y
12/2/98	Increase in H-3, C-14, and total site activity limits	Y
12/11, 14/98	(1) Increase in H-3, Ni-63, and total site activity limits & (2) high H-3 in BPU	(1) Y (2) N
12/31/98	Increase in Fe-55, Ni-63, Mn-54, and Zn-65 activity limits	Y
1/13/99	Onsite storage for QCEP (out-of-state) material	Y
2/299	Increase Fe-55 activity limit	Y
2/11, 25/99	(1) High H-3 in BPU and (2) increase H-3 activity limit	(1) N (2) Y
3/22/99	Consolidate MFP variances, reduce source material limits, extend storage of high H-3 containing drums	Y
5/28, 6/3/99	Increase overall site activity limits to 250 Ci and extend allowable onsite storage limit for 30 days	Y
6/23-24/99	Extend storage time for early (Feb.) QCEP material	Y

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

The application forms for both the LLRW facility and the uranium mills have been revised to be specific to each type of licensee.

19. For NRC Regions, identify by licensee name, license number and type, any renewal applications that have been pending for one year or more.

N/A

V. Responses to Incidents and Allegations

20. 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 in the Region/State during the review period. For Agreement States, 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). The list should be in the following format:

Licensee Name	License #	Date of Incident/Report	Type of Incident

General Testing Lab	I0100-1	11/15/96	Gauge lost/recovered
Agra Earth & Enviro	L093-1	5/21/96	Gauge crushed
Kiewit Pacific	I069-2	8/20/96	Gauge crushed
Deaconess Med Ctr	M005-1	9/19/96	I-125 seeds lost
Hong West	I0176-1	11/18/96	Gauge damaged
Shields Bag & Print	R-0040	10/21/96	GL static bars lost
Spokane County	I061-1	6/26/97	Gauge buried
Geo Group NW	I366-1	7/3/97	Gauge crushed
Multicare Med Ctr	M017-1	11/12/97	Deceased; Pd-103
Krazan	I0431-1	6/26/97	Gauge stolen/found

No reportable incidents for the Waste Management Section

21. 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?

Providence Medical Center reported an equipment problem with the Novoste Beta-Cath system. This was reported to NRC in early 1998 and became part of an NRC bulletin.

Deaconess Medical Center reported an AUR who used unapproved lubricant (September 1998); jammed HDR. Reported to NRC; appears in NMED.

Providence Medical Center, Seattle, reported HDR problem when new catheter used (December 1998); reported to NRC and appears in NMED.

Not applicable for the Waste Management Section.

22. 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.

The catheter mismatch was reported to Louisiana RCP which was already aware of the problem from other sources. A revised SS&D was issued shortly by Louisiana.

23. In the period covered by this review, were there any cases involving possible wrongdoing that were reviewed or are presently undergoing review? If so, please describe the circumstances for each case.

The department received a complaint of wrongdoing, involving the improper transfer of source material from a Washington State uranium mill company to a private citizen outside of Washington State. No evidence of wrongdoing could be substantiated.

In April 1998, an employee claimed possible retaliation when safety concerns were expressed. No evidence of wrongdoing could be substantiated.

24. Identify any changes to your procedures for handling allegations that occurred during the period of this review. EXISTING POLICY AND PROCEDURE WERE RECENTLY FORMALIZED IN WRITTEN FORM.

    a. For Agreement States, please identify any allegations referred to your program by the NRC that have not been closed. ALL HAVE BEEN CLOSED.

VI. General

25. 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.

a. Effective date of radiography equipment rule should be January 1996 -- no action taken because health and safety benefits of changing the date from January 1, 1998 did not justify the expense of rule making. The rule is now in effect and therefore a moot point. Item closed at time of 1998 Annual Meeting with the state.

b. Clarification of Allegation policy and procedures was recommended -- This was discussed at the Washington Annual Meeting in 1998 and closed at that time based on our commitments. Since then we have updated and issued a procedure for handling allegations.

c. Recommendations were made on documenting and tracking incidents -- improved forms were designed and implemented; an electronic tracking system was developed; and written procedures were developed recently.

d. Program management needs to be involved in all escalated enforcement or document why, if not involved -- we objected to the prescriptive nature of this requirement, noting that we make such determinations on a case by case basis but did agree that better documentation of deviations from the general rule that management attend all such meetings is needed. The item was closed at the time of the 1998 Annual Meeting.

e. Recommended revising a medical inspection form to include section on radiopharmaceutical therapy -- this was done and this item was closed at the time of the 1998 Annual Meeting.

f. Recommended a procedure and form be developed for HDR inspection -- we have too few HDR licensees to warrant developing a separate form and will use the NRC procedure and form until the situation changes. Item closed at the Annual Meeting.

g. Objection was raised to the use of a series of shorter inspection forms -- the forms in question were discontinued and the item closed at the time of the Annual Meeting.

h. Revised form for the annual inspection of the LLW site was recommended -- this was done and the item was closed at the time of the Annual Meeting.

i. Revised checklist for the uranium mill inspections was also recommended -- this was also done and the item was closed at the time of the Annual Meeting.

10. 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.

We believe our program is technically strong, with low staff turnover and a diversified staff which includes three certified health physicists, plus professional engineers, geologists, and hydrologists. We have an excellent state laboratory and funding is adequate and stable.

Our program weaknesses are in documentation of procedures and in keeping up with regulations changes required for compatibility.

B. NON-COMMON PERFORMANCE INDICATORS

I. Legislation and Program Elements Required for Compatibility

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

RCW 70.98 Nuclear Energy and Radiation
RCW 70.121 Mill Tailings, Licensing and Perpetual Care
RCW 70.94 Washington Clean Air Act

28. Are your regulations subject to a "Sunset" or equivalent law? If so, explain and include the next expiration date for your regulations. NO

29. Please complete the enclosed table based on NRC chronology of amendments. Identify those that have not been adopted by the State, 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. SEE TABLE

30. 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.

(For "EXCEPTION" RULES only):
Obtain approval from Assistant Secretary to develop rule -- three weeks
Draft rule language, prepare required backup documents -- four weeks
Assistant Attorney General review, revisions -- three weeks
Obtain Department approvals & file with Code Reviser -- two to four weeks
Publication of Proposed Rule in State Register -- two weeks
Public hearing follows publication by minimum of three weeks
Review of public comments, revisions & final documents -- one to four weeks
Adoption by Secretary & filing with Code Reviser -- two to four weeks

Effective Date of Rule is 31 days after filing -- four weeks

(Minimum time required for an "easy" rule change is 6 to 8 months)

II. Sealed Source and Device Program

31. Prepare a table listing new and revised SS&D registrations of sealed sources and devices issued during the review period. The table heading should be:

SS&D Registry Number	Manufacturer, Distributor or Custom User	Type of Device or Source	Date Issued
WA-0296-D-105-G	Panther Systems NW	Fixed gauge	6/17/96
WA-0296-D-106-G	Panther Systems NW	Fixed gauge	11/30/96
WA-0296-D-107-G	Panther Systems NW	Fixed gauge	3/14/97
WA-0653-D-106-B	Scitec Corp.	Port. analyzer	4/24/97
WA-0653-D-102-S	Scitec Corp.	Port. analyzer	4/24/97
WA-0653-D-106-B	Scitec Corp.	Port. analyzer	1/20/99
WA-0653-D-102-S	Scitec Corp.	Port. analyzer	1/20/99

32. What guides, standards and procedures are used to evaluate registry applications?

Current NRC guides, standards and procedures are used.

33. Please include information on the following questions in Section A, as they apply to the Sealed Source and Device Program:

Technical Staffing and Training - A.III.11-15 -- See the section
Technical Quality of Licensing Actions - A.IV.16-18 -- See the section
Responses to Incidents and Allegations - A.V.20-23 -- See the section

III. Low-Level Waste Program

34. Please include information on the following questions in Section A, as they apply to the Low-level Waste Program:

Status of Materials Inspection Program - A.I.1-3, A.I.6
Technical Quality of Inspections - A.II.7-10
Technical Staffing and Training - A.III.11-15
Technical Quality of Licensing Actions - A.IV.16-18
Responses to Incidents and Allegations - A.V.20-23

IV. Uranium Mill Program

35. Please include information on the following questions in Section A, as they apply to the Uranium Mill Program:

Status of Materials Inspection Program - A.I.1-3, A.I.6
Technical Quality of Inspections - A.II.7-10
Technical Staffing and Training - A.III.11-15
Technical Quality of Licensing Actions - A.IV.16-18
Responses to Incidents and Allegations - A.V.20-23

TABLE FOR QUESTION 29.

10 CFR RULE	DATE DUE	DATE ADOPTED	OR	
			CURRENT STATUS	EXPECTED ADOPTION
Any amendment due prior to 1991. Identify each regulation (refer to the Chronology of Amendments)				
Decommissioning; Parts 30, 40, 70	7/27/91	3/23/92		
Emergency Planning; Parts 30, 40, 70	4/7/93	1/21/95		
Standards for Protection Against Radiation; Part 20	1/1/94	1/9/94		
Safety Requirements for Radiographic Equipment; Part 34	1/10/94	1/9/94	Allowed equipment "effective date" of 1/1/98 to lapse	
Notification of Incidents; Parts 20, 30, 31, 34, 39, 40, 70	10/15/94	1/21/95		
Quality Management Program and Misadministrations; Part 35	1/27/95	3/25/94		
Licensing and Radiation Safety Requirements for Irradiators; Part 36	7/1/96		N/A -- no irradiators in WA	
Definition of Land Disposal and Waste Site QA Program; Part 61	7/22/96	11/20/97		
Decommissioning Recordkeeping: Documentation Additions; Parts 30, 40, 70	10/25/96	5/1/97		
Uranium Mill Tailings: Conforming to EPA Standards; Part 40	7/1/97	7/12/97		
Timeliness in Decommissioning Parts 30, 40, 70	8/15/97	5/3/97		
Frequency of Medical Examinations for Use of Respiratory Protection Equipment	3/13/98	7/9/98		
Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use; Parts 30, 32, 35	1/1/98	7/9/98		

10 CFR RULE	DATE DUE	DATE ADOPTED	OR	
Low-Level Waste Shipment Manifest Information and Reporting	3/1/98	5/23/98		
Performance Requirements for Radiography Equipment	6/30/98	3/8/99		
Radiation Protection Requirements: Amended Definitions and Criteria	8/14/98	3/8/99		
Clarification of Decommissioning Funding Requirements	11/24/98	5/3/97		
10 CFR Part 71: Compatibility with the International Atomic Energy Agency	4/1/99		Public Hearing scheduled for July 6	8/18/99
Medical Administration of Radiation and Radioactive Materials	10/20/98	7/9/98		
Termination or Transfer of Licensed Activities: Recordkeeping Requirements	6/16/99		Public Hearing scheduled for July 6	8/18/99
Resolution of Dual Regulation of Airborne Effluents of Radioactive Materials; Clean Air Act	1/9/00		Public Hearing scheduled for July 6	8/18/99
Recognition of Agreement State Licenses in Areas Under Exclusive Federal Jurisdiction Within an Agreement State	2/27/00		Public Hearing scheduled for July 6	8/18/99
Criteria for the Release of Individuals Administered Radioactive Material	5/29/00	7/9/98		
Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiography Operations; Final Rule	6/27/00			
Radiological Criteria for License Termination	8/20/00			
Exempt Distribution of a Radioactive Drug Containing One Microcurie of Carbon-14 Urea	1/2/01			
Deliberate Misconduct by Unlicensed Persons	2/12/01			

From: Erickson, John
To: Lohaus, Paul
Date: Fri, Oct 22, 1999 7:37 PM
Subject: Washington comments to draft IMPEP Report

Dear Mr. Lohaus:

We received the draft report of the Integrated Materials Performance Evaluation Program (IMPEP) review of our Agreement State Program on October 12, 1999. Staff from both the Radioactive Materials Section and the Waste Management Section are providing comments to clarify factual details and correct typographical errors. We are also supplying some information that was apparently overlooked at the time of the IMPEP review. All comments are given in report order. Please note there are several significant comments contained herein; only a few of which have been discussed with the team leader in a separate e-mail exchange.

We also request that a copy of the "proposed final" report that goes to the MRB be provided to us in advance of the MRB meeting.

1. Page 1; second paragraph -- The Division consists of SEVEN sections. There are regional offices in Seattle and Spokane as well as Olympia. The fifth sentence should read " One of three regional offices is located at the low level radioactive waste disposal facility at Hanford, Washington." OR simply "A regional office is located at ..." The number of licenses is 396 including the licenses administered by the Waste Management Section. The sentence referring to the specific licenses issued by the WA Agreement State program should read " ... approximately 400 ... " OR "At the time of the review, the Washington program regulated 396 specific licenses authorizing agreement materials." Also, there may be some confusion resulting from the last sentence of this paragraph which states that the review focused on the "materials program". This could be interpreted as the "Materials Section". We believe a better rendition of this sentence would be: "The review focused on the total materials program as carried out by both Sections under the Section 274b. ... "

2. Page 4; section 3.1, second paragraph -- The team was made aware of the fact that due to our administrative goals for all inspections, eight of the ten licenses that had been assigned a Priority 4 instead of a Priority 3, had also been inspected within three years. We propose that the concluding sentence be revised to read: "Although the Division's administrative goals resulted in eighty percent of these licenses being inspected within the time frame required for Priority 3, the Radioactive Materials Section, during the onsite portion of this review, changed the inspection priority designation of these license types to Priority 3, in accordance with IMC 2800."

3. Page 5; first paragraph -- We believe our series of inspections for ALL new licenses is unique and particularly effective. At a minimum, we suggest emphasizing the all inclusiveness of the follow-up inspection (our third site visit within 18 months!) by re-writing the last sentence as: "Additionally, follow-up inspections were performed for all new licenses within one year of the date of the initial inspection thus completing three onsite opportunities within the first 18 months to assure that every new licensee can maintain compliance."

4. Page 5; third paragraph -- With regard to the one reciprocity inspection for which no documented report of the results were provided to the licensee: we point out, as a mitigating circumstance, that there were no items of noncompliance noted during the inspection and the inspector provided a verbal statement of that fact at the exit briefing.

5. Page 6; second paragraph -- A comma is misplaced. The third line should read " ... level of review, and documentation required, for each type of inspection."

6. Page 7; section 3.3, second paragraph -- In the last sentence, "Radioactive Materials Section" needs to be capitalized.

7. Page 8; third full paragraph -- In the seventh line, there is a "singular-plural" mismatch: either " ... complete a specific type of inspection." OR " ... complete specific types of inspections."

8. Page 8; fourth full paragraph -- The description of our training program oversimplifies and "slights" our comprehensive assessment of a new inspector's qualifications. While "learn, do, and be reviewed" is certainly true and a mainstay of our program, there is also much consideration of a potential inspector's prior training and experience, and current performance in related areas before assignments in new areas are made. As reported elsewhere in this section, we are very supportive of training and we certainly do not disagree with your conclusion that staff could "benefit from additional training". However, we object to the inference that we should have sent the inspector to the teletherapy/brachytherapy course before assigning him to do the gamma knife inspection. and to the inference that management cannot exercise some judgement in assigning staff according to their abilities.

9. Page 9; first paragraph -- The Environmental Specialist serves a special niche and there is no intention of extending her duties beyond low risk (gauge) licensing and inspections. If there were such an intention, the recommendation for her to take "an extensive health physics course" would be warranted. We believe the team was aware that her duties will not expand to require more extensive health physics knowledge and since the team did not identify any weaknesses in her performance the presumptuousness that all "inspectors" must eventually become "full inspectors" is unwarranted.

10. Page 9; last sentence on the page -- "singular/plural mismatch". The sentence should read "Each license reviewer in the Radioactive Materials Section has signature authority and signs his/her licensing actions."

11. page 10; fifth paragraph -- The review team should have been aware that we had instituted an accelerated schedule, including overtime authorization, and had dramatically reduced the renewal backlog by the time of the review. The second sentence makes it sound as though action by the review team was necessary "to ensure these actions are given higher priority". We believe a more accurate rendition of the second sentence to be: "The matter was discussed with Radioactive Materials Section management and recent progress in reducing the renewal backlog indicates that higher priority is being given to ensure timely completion of all renewals."

12. Page 11; last paragraph -- With respect to the allegation received directly by the Division, the report dated October 12, 1998 by the on-scene investigator notes that the alleger was "informed of our findings" and given a contact number for further information or concerns. This is found as the last item on a summary report and could easily have been overlooked.

13. Page 12; section 4.1.2, first paragraph -- Grammatical correction to the first sentence: "RCW applies to all ionizing radiation and provides the statutory authority ... " This paragraph also overlooks several significant components of the program. The last sentence should read: "The State also requires a license or permit for radioactive air emissions which affords limited regulatory authority over the US Department of Energy's Hanford Reservation and other federal installations. Other program components include emergency response capability, environmental monitoring, individual dose assessment for past Hanford releases, and registration of all equipment designed to produce x-rays or other ionizing radiation." Please note, this state does NOT register tanning beds!

14. Page 12; last paragraph -- The proper title is "the Code Reviser" and is misspelled in the third line.

15. Page 13-14; every bullet -- The term "and adopted by the State on (date)" is used throughout with a date that is the "effective date" of the rule, not the "adoption date" (by our definition, which is correctly used on Page 12, last paragraph, the adoption date is the date the Secretary signs the order adopting the rule). As long as it is understood that the date provided in each bullet is actually the "State's effective date", we have no objection to the sentence construction.

16. page 13; first bullet -- "Definition of Land Disposal ..." has a typo ("QA" not "OA") and an error: the State's effective date is January 20, 1997.

17. page 13; second bullet -- "Decommissioning ... " has an error in the State's effective date which should be May 3, 1997.

18. page 13; third bullet -- "Uranium Mill ... " has an error in the State's effective date which should be July 17, 1997.

19. page 13; sixth bullet -- "Frequency ... " has an error in the State's effective date which should be July 9, 1998.

20. page 14; The four rules identified as "proposed" (10 CFR Part 71, Termination of Licensed Activities, Resolution of Dual Regulation, and Recognition of Agreement State Licenses) became effective on August 21, 1999 and should be so noted and added to the preceding set of rules.

21. Page 15; first paragraph following the two bullets -- As written, this paragraph indicates we would only have roughly two years to implement several of the rules listed. We believe the three year criteria is still in effect; therefore the following should be added to the end of the sentence: " ... or 3 years after the effective date of the regulation, whichever is later."

22. Page 15; section 4.2, second paragraph -- The actual policy is: the Manager, Industrial Licensing, will review and sign SS&Ds for industrial type sources and devices and the Manager, Medical Licensing, will review and sign SS&Ds for medical sources and devices, with the concurrence review by the other. Both Managers are fully qualified SS&D reviewers and the paragraph as written is merely a reflection of the recent history during which only industrial devices were evaluated. Currently, the Manager, Medical Licensing, is working on three new SS&Ds related to medical sources.

23. Page 18; section 4.3.3, first paragraph -- Several important specialties were omitted from the list of staff backgrounds: please add "geochemistry, physics, and geotechnical engineering".

24. Page 18; section 4.3.3, second paragraph -- Upon further review, it is clear that the NRC "core courses" include several which are not germane for the specialized staff in the Waste Management Section. Therefore the implication that the staff fully implement the training program, including the NRC core courses, is inappropriate. We recommend the final sentence be changed to read: "The review team recommends that management consider revising the list of courses to be tracked before implementing the training program that was recently established for the Waste Management Section."

25. page 19; third paragraph -- Typo on third line: "Moravek" is the correct spelling.

26. Page 21; first line -- It is the "Sherwood Project" so the line should read: "period; and Western Nuclear, Inc., Sherwood Project (Sherwood), that is currently under reclamation."

27. Page 22; second paragraph -- A more appropriate rendition of the concluding portion of this paragraph was discussed with the team leader in a separate e-mail and is included here for completeness: replace the next to last sentence with: "The team considers that the use of this inspection procedure or an equivalent could have improved the quality of the inspection at the Sherwood site, as well as benefiting future inspections at DMC and the commercial low-level waste site." Remove the last sentence of the paragraph.

28. Page 22; section 4.4.3, second paragraph -- Typo in the first line: "Management".

29. Page 23, second paragraph -- Also discussed separately with the team leader: Replace the entire paragraph with "However, the review team noted from the review of training records and discussions with staff that staff has limited experience in certain areas and has not received specific training in areas such as the construction and placement of erosion protection. The review team concludes that additional training and experience of the inspection staff in these areas will improve the quality of inspections at WNI, DMC, and the commercial LLRW site."

30. Page 24; section 4.4.4, fifth paragraph -- As discussed with the team leader: Remove the word "problem" from the first sentence, and replacing it with "issue".

31. Page 25; recommendation 1. -- As of the date of this response, the Radioactive Materials Section has completed documenting the qualifications of all Section staff members and has assessed their training needs. As noted earlier in the report, Section Management is very supportive of training and will provide any training as necessary to fully qualify appropriate staff per our procedure RMS-61. It is no longer appropriate to highlight this area as a "recommendation that needs doing", since it is already done!

32. Page 25; recommendation 2. -- This recommendation is based solely on an incident that was investigated and closed prior to the update of the procedure that specified allegers be informed of the resolution of their concerns. This procedure (RMS-41) was reviewed by the IMPEP team during the review. Since the update, no allegation has been received for which this recommendation could apply. However, the fact that we have an updated procedure in place that addresses this point should effectively satisfy the concern and the recommendation should be removed, having been completed.

33. Appendix A -- The last team member listed was introduced to us as "Ted"; not "Terry".

34. Appendix C -- All Washington License numbers begin with "WN-" as done properly for files 20 & 21, and Accompaniment 5. All the other numbers are listed incorrectly. There should also be a "-1" at the end of the license number for Accompaniments 1, 2 and 4.

35. Page C.3; file 12 -- The correct license number is WN-I0466-1 (there is no lower case "L")

36. Page C.4; file 18 -- The correct inspection date was January 6, 1999. Also, a "corrective actions letter" from the licensee dated February 9, 1999 was apparently overlooked in the file. The comment is not warranted.

37. Page C.4; file 19 -- The correct initials for the inspector are "RV".

38. Page C.5; Accompaniment 1 -- Typo in the licensee name: Dept. of Public "Works".

39. Page C.5; Accompaniment 5 -- The inspectors should be listed as "ME, EF, DS".

40. Page C.5; Accompaniment 6 -- This is a missing accompaniment conducted by Mark Thaggard and should be listed as:"US Ecology, License # WN-I019-2, located at Hanford, WA, routine/announced inspection, LLW disposal license type, priority 1, inspected 8/31/99, inspectors ME, EF.

41. Page D.1; file 1 -- Although we complied with the team's direction to list previous SS&D registration information, the Manager, Industrial Licensing, reviewed all available NRC procedures on the matter and could not find documentation of a requirement to tie such information into the license. Based on the apparent lack of documentation that this is a requirement, we request the comment be removed.

42. Page D.1; file 2 -- There should be a "-1" at the end of the license number.

43. Page D.1; file 5 -- The name is Superior Asphalt & Concrete (no "7")

44. Appendix E -- The license number is incorrectly phrased essentially throughout this appendix. There is no "WA-" in front of the "WN-" that begins our license numbers. This may be an error introduced by NMED. Despite a very clear e-mail to the former NMED contact, he refused to correct the reference numbers listed therein. Please do not perpetuate this error. Remove the "WA-" found in files 2, 3, 4, 6, 7, 8, 10, 12, 13, 14, 15, 17, and 18.

45. Page E.3; file 5 -- The manufacturer's representative is not the site RSO. The sentence should read: "The manufacturer's representative, who arrived within 12 hours, and the licensee's RSO, who was on site, determined that ... "

46. Page E.4; file 9 -- Several corrections are needed: the licensee is Group Health Cooperative, the license number is WN-M021-1 and the location of the licensee is Seattle.

47. Page E-5; file 10 -- Typo in the spelling of "technetium".

48. Page E.9; file 17 -- The type of incident is "lost" source.

49. Page E-9; file 18 -- The type of incident is "lost" source and the investigation type is clearly "Onsite".

50. Page E-9; file 19 -- The licensee name is "Nuclear Support Services" (you identified the RSO); it was a "Seaman" Nuclear gauge and the investigation was "Onsite" since one of the Radioactive Materials Section staff responded to the scene when it was discovered.

This concludes our response. While there may be some details that were overlooked, we believe the major concerns and apparent errors have been addressed. Thank you for the opportunity to comment.

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CC: ATL_DO.ATL_PO(RLW)

Response to Washington's Comments
on the 1999 Washington IMPEP Review
Draft Report

Comment 1

Page 1; second paragraph -- The Division consists of SEVEN sections. There are regional offices in Seattle and Spokane as well as Olympia. The fifth sentence should read " One of three regional offices is located at the low level radioactive waste disposal facility at Hanford, Washington." OR simply "A regional office is located at ..." The number of licenses is 396 including the licenses administered by the Waste Management Section. The sentence referring to the specific licenses issued by the WA Agreement State program should read " ... approximately 400 ... " OR "At the time of the review, the Washington program regulated 396 specific licenses authorizing agreement materials." Also, there may be some confusion resulting from the last sentence of this paragraph which states that the review focused on the "materials program". This could be interpreted as the "Materials Section". We believe a better rendition of this sentence would be: "The review focused on the total materials program as carried out by both Sections under the Section 274b... "

Response

The review team accepts these comments and the proposed final report was clarified and corrected appropriately.

Comment 2

Page 4; section 3.1, second paragraph -- The team was made aware of the fact that due to our administrative goals for all inspections, eight of the ten licenses that had been assigned a Priority 4 instead of a Priority 3, had also been inspected within three years. We propose that the concluding sentence be revised to read: "Although the Division's administrative goals resulted in eighty percent of these licenses being inspected within the time frame required for Priority 3, the Radioactive Materials Section, during the onsite portion of this review, changed the inspection priority designation of these license types to Priority 3, in accordance with IMC 2800."

Response

The review team revised the proposed final report to reflect this additional insight as follows:

Each of these license types were assigned a Priority 4 rather than the more restrictive Priority 3 designation found in IMC 2800. However, the Division has an administrative goal of inspecting Priority 2 licenses annually, and Priority 3 and 4 licenses every other year. Nonetheless, during the onsite portion of this review, the Radioactive Materials Section changed the inspection priority designation of these license types to Priority 3, in accordance with IMC 2800.

ATTACHMENT 2

Comment 3

Page 5; first paragraph -- We believe our series of inspections for ALL new licenses is unique and particularly effective. At a minimum, we suggest emphasizing the all inclusiveness of the follow-up inspection (our third site visit within 18 months!) by re-writing the last sentence as: "Additionally, follow-up inspections were performed for all new licenses within one year of the date of the initial inspection thus completing three onsite opportunities within the first 18 months to assure that every new licensee can maintain compliance."

Response

No action taken. The review team believes that the report as written states accurately the process in place for new licenses.

Comment 4

Page 5; third paragraph -- With regard to the one reciprocity inspection for which no documented report of the results were provided to the licensee: we point out, as a mitigating circumstance, that there were no items of noncompliance noted during the inspection and the inspector provided a verbal statement of that fact at the exit briefing.

Response

The proposed final report has been revised to include a statement that no items of noncompliance were noted during the inspection.

Comment 5

Page 6; second paragraph -- A comma is misplaced. The third line should read " ... level of review, and documentation required, for each type of inspection."

Response

The proposed final report has been revised to reflect this correction.

Comment 6

Page 7; section 3.3, second paragraph -- In the last sentence, "Radioactive Materials Section" needs to be capitalized.

Response

The proposed final report has been revised to reflect this correction.

Comment 7

Page 8; third full paragraph -- In the seventh line, there is a "singular-plural" mismatch: either " ... complete a specific type of inspection." OR " ... complete specific types of inspections."

Response

The proposed final report has been revised to reflect this correction.

Comment 8

Page 8; fourth full paragraph -- The description of our training program oversimplifies and "slights" our comprehensive assessment of a new inspector's qualifications. While

"learn, do, and be reviewed" is certainly true and a mainstay of our program, there is also much consideration of a potential inspector's prior training and experience, and current performance in related areas before assignments in new areas are made. As reported elsewhere in this section, we are very supportive of training and we certainly do not disagree with your conclusion that staff could "benefit from additional training". However, we object to the inference that we should have sent the inspector to the teletherapy/brachytherapy course before assigning him to do the gamma knife inspection and to the inference that management cannot exercise some judgement in assigning staff according to their abilities.

Response

The review team revised the proposed final report to reflect this additional insight as follows:

For example, the Compliance Inspector conducted an inspection of a gamma knife facility independently, without previously participating in a gamma knife facility inspection, without taking the teletherapy/brachytherapy course, and prior to taking the nuclear medicine course. The Compliance Inspector is considered qualified to complete all types of inspections, including medical inspections, through the State's "learn, do, and be reviewed" approach.

Comment 9

Page 9; first paragraph -- The Environmental Specialist serves a special niche and there is no intention of extending her duties beyond low risk (gauge) licensing and inspections. If there were such an intention, the recommendation for her to take "an extensive health physics course" would be warranted. We believe the team was aware that her duties will not expand to require more extensive health physics knowledge and since the team did not identify any weaknesses in her performance the presumptuousness that all "inspectors" must eventually become "full inspectors" is unwarranted.

Response

No action taken. The review team continues to believe that the Environmental Specialist's knowledge of health physics in general could be supplemented by taking an extensive health physics course.

Comment 10

Page 9; last sentence on the page -- "singular/plural mismatch". The sentence should read "Each license reviewer in the Radioactive Materials Section has signature authority and signs his/her licensing actions."

Response

The proposed final report has been revised to reflect this correction.

Comment 11

Page 10; fifth paragraph -- The review team should have been aware that we had instituted an accelerated schedule, including overtime authorization, and had dramatically reduced the renewal backlog by the time of the review. The second

sentence makes it sound as though action by the review team was necessary "to ensure these actions are given higher priority". We believe a more accurate rendition of the second sentence to be: "The matter was discussed with Radioactive Materials Section management and recent progress in reducing the renewal backlog indicates that higher priority is being given to ensure timely completion of all renewals."

Response

The proposed final report has been revised to reflect this correction.

Comment 12

Page 11; last paragraph -- With respect to the allegation received directly by the Division, the report dated October 12, 1998 by the on-scene investigator notes that the alleger was "informed of our findings" and given a contact number for further information or concerns. This is found as the last item on a summary report and could easily have been overlooked.

Response

The word "written" was omitted from the draft report. The sentence now reads: "Written notification to the alleger was discussed with the Radioactive Materials Section Head as one way to assure that allegations are closed out in a consistent manner." The review team believes that this wording fully conveys the point the team is attempting to make.

Comment 13

Page 12; section 4.1.2, first paragraph -- Grammatical correction to the first sentence: "RCW applies to all ionizing radiation and provides the statutory authority ... " This paragraph also overlooks several significant components of the program. The last sentence should read: "The State also requires a license or permit for radioactive air emissions which affords limited regulatory authority over the US Department of Energy's Hanford Reservation and other federal installations. Other program components include emergency response capability, environmental monitoring, individual dose assessment for past Hanford releases, and registration of all equipment designed to produce x-rays or other ionizing radiation." Please note, this state does NOT register tanning beds!

Response

The proposed final report has been revised to reflect this correction.

Comment 14

Page 12; last paragraph -- The proper title is "the Code Reviser" and is misspelled in the third line.

Response

The proposed final report has been revised to reflect this correction.

Comment 15

Page 13-14; every bullet -- The term "and adopted by the State on (date)" is used throughout with a date that is the "effective date" of the rule, not the "adoption date" (by our definition, which is correctly used on Page 12, last paragraph, the adoption date is the date the Secretary signs the order adopting the rule). As long as it is understood

that the date provided in each bullet is actually the "State's effective date", we have no objection to the sentence construction.

Response

The proposed final report has been revised to reflect this correction.

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Page 13; first bullet -- "Definition of Land Disposal ..." has a typo ("QA" not "OA") and an error: the State's effective date is January 20, 1997.

Response

The proposed final report has been revised to reflect this correction.

Comment 17

Page 13; second bullet -- "Decommissioning ... " has an error in the State's effective date which should be May 3, 1997.

Response

The proposed final report has been revised to reflect this correction.

Comment 18

Page 13; third bullet -- "Uranium Mill ... " has an error in the State's effective date which should be July 17, 1997.

Response

The proposed final report has been revised to reflect this correction.

Comment 19

Page 13; sixth bullet -- "Frequency ... " has an error in the State's effective date which should be July 9, 1998.

Response

The proposed final report has been revised to reflect this correction.

Comment 20

Page 14; The four rules identified as "proposed" (10 CFR Part 71, Termination of Licensed Activities, Resolution of Dual Regulation, and Recognition of Agreement State Licenses) became effective on August 21, 1999 and should be so noted and added to the preceding set of rules.

Response

The proposed final report has been revised to reflect this correction.

Comment 21

Page 15; first paragraph following the two bullets -- As written, this paragraph indicates we would only have roughly two years to implement several of the rules listed. We believe the three year criteria is still in effect; therefore the following should be added to

the end of the sentence: " ... or 3 years after the effective date of the regulation, whichever is later."

Response

The proposed final report has been revised to indicate that only regulations issued prior to September 3, 1997 must be adopted by September 3, 2000.

Comment 22

Page 15; section 4.2, second paragraph -- The actual policy is: the Manager, Industrial Licensing, will review and sign SS&Ds for industrial type sources and devices and the Manager, Medical Licensing, will review and sign SS&Ds for medical sources and devices, with the concurrence review by the other. Both Managers are fully qualified SS&D reviewers and the paragraph as written is merely a reflection of the recent history during which only industrial devices were evaluated. Currently, the Manager, Medical Licensing, is working on three new SS&Ds related to medical sources.

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Comment 23

Page 18; section 4.3.3, first paragraph -- Several important specialties were omitted from the list of staff backgrounds: please add "geochemistry, physics, and geotechnical engineering".

Response

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Comment 24

Page 18; section 4.3.3, second paragraph -- Upon further review, it is clear that the NRC "core courses" include several which are not germane for the specialized staff in the Waste Management Section. Therefore the implication that the staff fully implement the training program, including the NRC core courses, is inappropriate. We recommend the final sentence be changed to read: "The review team recommends that management consider revising the list of courses to be tracked before implementing the training program that was recently established for the Waste Management Section."

Response

The intent of this recommendation is not to have the training list used in the procedure be the one in IMC 1246. The recommendation in the proposed final report has been revised to read: "The review team recommends that management fully implement the training program established for the Waste Management Section."

Comment 25.

Page 19; third paragraph -- Typo on third line: "Moravek" is the correct spelling.

Response

The proposed final report has been revised to reflect this correction.

Comment 26

Page 21; first line -- It is the "Sherwood Project" so the line should read: "period; and Western Nuclear, Inc., Sherwood Project (Sherwood), that is currently under reclamation."

Response

The proposed final report has been revised to reflect this correction.

Comment 27

Page 22; second paragraph -- A more appropriate rendition of the concluding portion of this paragraph was discussed with the team leader in a separate e-mail and is included here for completeness: replace the next to last sentence with: "The team considers that the use of this inspection procedure or an equivalent could have improved the quality of the inspection at the Sherwood site, as well as benefitting future inspections at DMC and the commercial low-level waste site." Remove the last sentence of the paragraph.

Response

This comment has been adopted and the proposed final has been revised to reflect this correction.

Comment 28

Page 22; section 4.4.3, second paragraph -- Typo in the first line: "Management".

Response

The proposed final report has been revised to reflect this correction.

Comment 29

Page 23, second paragraph -- Also discussed separately with the team leader: Replace the entire paragraph with "However, the review team noted from the review of training records and discussions with staff that staff has limited experience in certain areas and has not received specific training in areas such as the construction and placement of erosion protection. The review team concludes that additional training and experience of the inspection staff in these areas will improve the quality of inspections at WNI, DMC, and the commercial LLRW site."

Response

The proposed final report has been revised to reflect this correction.

Comment 30

Page 24; section 4.4.4, fifth paragraph -- As discussed with the team leader: Remove the word "problem" from the first sentence, and replacing it with "issue".

Response

The proposed final report has been revised to reflect this correction.

Comment 31

Page 25; recommendation 1. -- As of the date of this response, the Radioactive Materials Section has completed documenting the qualifications of all Section staff members and has assessed their training needs. As noted earlier in the report, Section Management is very supportive of training and will provide any training as necessary to fully qualify appropriate staff per our procedure RMS-61. It is no longer appropriate to highlight this area as a "recommendation that needs doing", since it is already done!

Response

No action taken. The review team will discuss this recommendation during the MRB and seek MRB guidance.

Comment 32

Page 25; recommendation 2. -- This recommendation is based solely on an incident that was investigated and closed prior to the update of the procedure that specified allegers be informed of the resolution of their concerns. This procedure (RMS-41) was reviewed by the IMPEP team during the review. Since the update, no allegation has been received for which this recommendation could apply. However, the fact that we have an updated procedure in place that addresses this point should effectively satisfy the concern and the recommendation should be removed, having been completed.

Response

No action taken. The review team will discuss this recommendation during the MRB and seek MRB guidance.

Comment 33

Appendix A -- The last team member listed was introduced to us as "Ted"; not "Terry".

Response

Though Mr. Johnson's given name is "Terry," he prefers to go by "Ted."

Comment 34

Appendix C -- All Washington License numbers begin with "WN-" as done properly for files 20 & 21, and Accompaniment 5. All the other numbers are listed incorrectly. There should also be a "-1" at the end of the license number for Accompaniments 1, 2 and 4.

Response

The proposed final report has been revised to reflect this correction.

Comment 35

Page C.3; file 12 -- The correct license number is WN-I0466-1 (there is no lower case "L")

Response

The proposed final report has been revised to reflect this correction.

Comment 36

Page C.4; file 18 -- The correct inspection date was January 6, 1999. Also, a "corrective actions letter" from the licensee dated February 9, 1999 was apparently overlooked in the file. The comment is not warranted.

Response

The proposed final report has been revised to reflect this correction.

Comment 37

Page C.4; file 19 -- The correct initials for the inspector are "RV".

Response

The proposed final report has been revised to reflect this correction.

Comment 38

Page C.5; Accompaniment 1 -- Typo in the licensee name: Dept. of Public "Works".

Response

The proposed final report has been revised to reflect this correction.

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Page C.5; Accompaniment 5 -- The inspectors should be listed as "ME, EF, DS".

Response

The proposed final report has been revised to reflect this correction.

Comment 40

Page C.5; Accompaniment 6 -- This is a missing accompaniment conducted by Mark Thaggard and should be listed as:"US Ecology, License #WN-I019-2, located at Hanford, WA, routine/announced inspection, LLW disposal license type, priority 1, inspected 8/31/99, inspectors ME, EF.

Response

The proposed final report has been revised to reflect this correction.

Comment 41

Page D.1; file 1 -- Although we complied with the team's direction to list previous SS&D registration information, the Manager, Industrial Licensing, reviewed all available NRC procedures on the matter and could not find documentation of a requirement to tie such information into the license. Based on the apparent lack of documentation that this is a requirement, we request the comment be removed.

Response

The team believes that a comment is necessary here. The comment will be revised to read: "License renewal amendment number 12 does not list any of the previous SS&D registration information from previous SS&D reviews in the tie-down conditions which are needed for inspection and enforcement considerations. The license was revised to include the tie-down conditions during the week of September 27, 1999."

Comment 42

Page D.1; file 2 -- There should be a "-1" at the end of the license number.

Response

The proposed final report has been revised to reflect this correction.

Comment 43

Page D.1; file 5 -- The name is Superior Asphalt & Concrete (no "7")

Response

The proposed final report has been revised to reflect this correction.

Comment 44

Appendix E -- The license number is incorrectly phrased essentially throughout this appendix. There is no "WA-" in front of the "WN-" that begins our license numbers. This may be an error introduced by NMED. Despite a very clear e-mail to the former NMED contact, he refused to correct the reference numbers listed therein. Please do not perpetuate this error. Remove the "WA-" found in files 2, 3, 4, 6, 7, 8, 10, 12, 13, 14, 15, 17, and 18.

Response

The proposed final report has been revised to reflect this correction.

Comment 45

Page E.3; file 5 -- The manufacturer's representative is not the site RSO. The sentence should read: "The manufacturer's representative, who arrived within 12 hours, and the licensee's RSO, who was on site, determined that ... "

Response

The proposed final report has been revised to reflect this correction.

Comment 46

Page E.4; file 9 -- Several corrections are needed: the licensee is Group Health Cooperative, the license number is WN-M021-1 and the location of the licensee is Seattle.

Response

The proposed final report has been revised to reflect this correction.

Comment 47

Page E-5; file 10 -- Typo in the spelling of "technetium".

Response

The proposed final report has been revised to reflect this correction.

Comment 48

Page E.9; file 17 -- The type of incident is "lost" source.

Response

The proposed final report has been revised to reflect this correction.

Comment 49

Page E-9; file 18 -- The type of incident is "lost" source and the investigation type is clearly "Onsite".

Response

The proposed final report has been revised to reflect this correction.

Comment 50

Page E-9; file 19 -- The licensee name is "Nuclear Support Services" (you identified the RSO); it was a "Seaman" Nuclear gauge and the investigation was "Onsite" since one of the Radioactive Materials Section staff responded to the scene when it was discovered.

Response

The proposed final report has been revised to reflect this correction.

Agenda for Management Review Board Meeting
Tuesday, November 16, 1999, 2:00 - 4:00 p.m., TWFN, 2-B-5

1. Convention. MRB Chair Convenes Meeting

2. New Business - Consideration of Washington IMPEP Report

   A. Introduction of Washington IMPEP Team Members (R. Woodruff)

   B. Introduction of Washington representatives and other State representatives participating through videoconference or teleconference.

   C. Findings regarding Washington Program (IMPEP Team)

      - Status of Materials Inspection Program
      - Technical Quality of Inspections
      - Technical Staffing and Training
      - Technical Quality of Licensing Actions
      - Response to Incidents and Allegations
      - Legislation and Program Elements Required for Compatibility
      - Sealed Source and Device Evaluation Program
      - Low-Level Radioactive Waste Disposal Program
      - Uranium Recovery Program

   D. Questions (MRB Members)

   E. Comments from State of Washington

   F. MRB Consultation/Comments on Issuance of Report

      - Recommendation for Next IMPEP Review

3. Status of Upcoming Reviews

4. Adjournment

Attendees:
Carl Paperiello, MRB Member, DEDMRS
Paul Lohaus, MRB Member, OSP
Karen Cyr, MRB Member, OGC
William Kane, MRB Member, NMSS
David Snellings, OAS Liaison to the MRB, AR
John Erickson, WA
Richard Woodruff, IMPEP Team Leader, RII
Mark Shaffer, IMPEP Team Member, RIV
Mark Thaggard, IMPEP Team Member, NMSS
Mike Stephens, IMPEP Team Member, FL
Ted Johnson, IMPEP Team Member, NMSS
Lance Rakovan, IMPEP Team Member
Kathleen Schneider, OSP
Brenda Usilton, OSP

ATTACHMENT 3