December 22, 2003

Mr. Bill White
Acting Deputy Secretary
Washington Department of Health
1112 SE Quince Street
Olympia, WA 98504-7890

Dear Mr. White:

On December 10, 2003, the Management Review Board (MRB) met to consider the proposed final Integrated Materials Performance Evaluation Program (IMPEP) report on the Washington Agreement State Program. The MRB found the Washington program adequate to protect public health and safety and compatible with the Nuclear Regulatory Commission's program.

Section 5.0, page 19, of the enclosed final report presents the IMPEP team's recommendation for the State of Washington. At the MRB meeting, Terry Frazee, Western Regional Director, presented a letter that detailed the State's actions in response to this recommendation. We request no additional information at this time.

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

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

Sincerely,

/RA Paul H. Lohaus Acting For/

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

Enclosure:
As stated

cc: Gary L. Robertson, Director
Division of Radiation Protection

Bob Nichols, State Liaison Officer
Executive Policy Division

Steve Collins, IL
OAS Liaison to the MRB

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bcc: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF WASHINGTON AGREEMENT STATE PROGRAM

September 8 - 12, 2003

FINAL REPORT

U.S. Nuclear Regulatory Commission

1.0 INTRODUCTION

This report presents the results of the review of the Washington Agreement State program. The review was conducted during the period September 8 - 12, 2003, by a review team consisting of technical staff members from the Nuclear Regulatory Commission (NRC) and the Agreement State of Texas. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of a Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the November 5, 1999, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period of September 4, 1999 to September 12, 2003, were discussed with Washington management on September 12, 2003.

A draft of this report was issued to Washington for factual comment on October 9, 2003. The State responded by letter dated October 30, 2003. The Management Review Board (MRB) met on December 10, 2003 to consider the proposed final report. The MRB found the Washington radiation control program adequate to protect public health and safety and compatible with NRC's program.

The Washington Agreement State program is administered by the Office of Radiation Protection (the Office) in the Division of Environmental Health, Department of Health (the Department). Management in the Office consists of the Office Director, the Western Regional Director, and the Eastern Regional Director. The Regional Directors report to the Office Director. The Western Regional Director is located in the Olympia office and is responsible for operations in three technical sections: the Radioactive Materials Section, the X-ray Section, and the Waste Management Section. The Eastern Regional Director is located at the Richland office and is primarily responsible for oversight of activities on the Hanford Nuclear Reservation, and three technical sections: the Air Emissions and Defense Waste Section, the Environmental Radiation Section, and the Nuclear Safety Section. Organization charts are included in Appendix B.

At the time of the review, the Washington Agreement State program regulated approximately 410 specific licenses authorizing Agreement materials. The review focused on the materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Washington.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Office on May 21, 2003. The Office provided a response to the questionnaire on August 20, 2003. A copy of the questionnaire response can be found on NRC's Agencywide Document Access and Management System using the Accession Number ML032671064.

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

Section 2 below discusses the State's actions in response to the recommendation made following the previous IMPEP review and the team's conclusions regarding closeout of the recommendation. 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. Recommendations made by the review team are comments that relate directly to performance by the State. A response is requested from the State to the recommendation in the final report.

2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on September 3, 1999, one recommendation was made and transmitted to Mary C. Selecky, Secretary, Washington Department of Health on December 3, 1999. The team's review of the current status of the recommendation is as follows:

1. The review team recommends that the State develop additional specialized inspection procedures for the uranium recovery program. (Section 4.4.2)

   Current Status: The Waste Management Section developed and implemented a specific written procedure, Inspection Procedures for Uranium Mill Reclamation and Construction Project, for geotechnical construction which addresses onsite construction reviews and placement of erosion protection. This recommendation is closed.

3.0 COMMON PERFORMANCE INDICATORS

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

3.1 Technical Staffing and Training

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

The Office underwent several organizational changes in fiscal years 2001 and 2002. A new Office Director was appointed in June 2002. In December 2002, two new management positions, Regional Directors, were created. These positions were created partially to focus a higher level of management on activities on the Hanford Nuclear Reservation and partially for succession planning.

At the time of the review, the Radioactive Materials Section was staffed by the Section Supervisor, seven full time technical staff members, and two administrative support staff. Three staff members act as program managers for three major licensee groups: medical, industrial, and laboratories. The remaining staff are assigned to assist the program managers. The technical staff are classified as Radiation Health Physicists and perform both inspection and licensing functions.

The Radioactive Materials Section had a total of five staff turnovers during the review period. Of the five turnovers, two staff members were promoted and three retired or resigned. The Office has been able to fill the vacancies in an expedient manner. Four of the vacancies were filled with staff who transferred from other groups within the Office. At the time of the review, the Section was fully staffed.

The Radioactive Materials Section has a documented training and qualification program for staff who perform licensing and inspection duties and investigate incidents that is based on the NRC/OAS Joint Working Group report. Adequate qualification is determined through a combination of education and experience, formal classroom training, and on-the-job training. Staff members are required to have a bachelor's degree or equivalent experience in physical science, engineering or biological science. Training records and management authorization for licensing and inspection of each license category, and management authorization for investigation of incidents, are maintained for each staff member. The team noted that the Section encourages and supports training based on program needs and funding. At the time of the IMPEP review, six technical staff had interim qualifications for inspection and licensing of specific categories of licensees and needed some additional formal training courses before becoming fully qualified. However, this has not affected the Section's ability to complete all duties and responsibilities associated with the program. The review team concluded that the Section has a well-balanced staff, and a sufficient number of trained personnel to carry out regulatory duties.

The team noted that the Radioactive Materials Section has experienced stable funding during the review period. However, the Office Director stated that beginning in fiscal year (FY) 2003 (July 1, 2003), the Governor directed State offices to reduce full time equivalent staff (FTE) over the next two fiscal years. For the six sections in the Office, this would require a reduction in FTE of 0.8 in FY 2003 and 0.5 in FY 2004. The Office Director believes that these reductions can be met without affecting the performance of the program. The Section has been progressing towards full fee recovery of program costs since 1982 and is currently at 100 percent fee supported for direct and indirect program costs. Licensees are assessed an annual fee to cover the costs associated with amendments, routine inspections, and investigations. New license applicants are assessed a small fee to cover the initial pre-licensing inspection costs. In addition, the Office receives a small apportionment from the State general fund to cover costs associated with incident response for the entire program.

The State of Washington does not have an established State radiation oversight board. However, if the Office determines that advice is needed on a particular subject, a group of licensee representatives is convened to act in an advisory role to the Office.

During team interviews with the Office Director and the Western Regional Director, the Office Director discussed the outreach program for providing emergency response training to first responders, hospital staff, and local government health agencies for response to radiological events including incidents resulting from terrorist activities. The genesis of this program was the result of lessons learned from the Office's training of National Guard, hospitals, local health departments and first responders for the TOPOFF2 radiological terrorism emergency preparedness exercise. The Office goal is for each Section to provide two FTE days per month to support this training initiative. At the time of the review, the Office had conducted two training sessions. The scenario for one of the sessions was focused on a realistic terrorist activity and involved the use of radiation sources in various forms. As a result of this exercise, first responders discovered that although they had high-tech detection equipment, they did not use the equipment's alpha or beta detection capability, but relied on the gamma analyzers. The Office believes that the use of actual radiation sources and a realistic scenario proved to be effective tools for exercising and training the capability of first responders. The review team recommends this outreach training approach as a good practice.

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

3.2 Status of Materials Inspection Program

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

The team's review of the Office's inspection priorities verified that inspection frequencies for all types of Washington material licenses are at least the same frequency as those listed in NRC Inspection Manual Chapter (IMC) 2800. Some categories of licenses were assigned inspection priority codes that prescribe a more frequent inspection schedule than those currently prescribed in NRC IMC 2800.

In their response to the questionnaire, the Office indicated that there were currently no inspections of core licensees overdue by more than 25 percent of the NRC frequency. This information was verified during the inspection casework reviews and the review of the database provided to the team. The program conducted approximately 400 core licensee inspections during the review period. During the review period, there were three overdue core inspections. These inspections were conducted one, three, and five months late.

The review team also evaluated the Office's timeliness for conducting initial inspections. All new licenses are delivered by the reviewer. Each licensee is subject to an onsite review of their radiation safety programs to ensure that each licensee is prepared to accept licensed material. The team noted that the Office conducted approximately 90 initial inspections during the review period. All but one new licensee was inspected in accordance with NRC IMC 2800 guidelines. This one licensee did receive an initial visit in accordance with Office policy, but the initial inspection was not performed since the licensee has not yet been awarded a contract requiring the use of licensed material. An inspection has been scheduled for 2004.

The timeliness of the issuance of inspection findings was also evaluated during the inspection file review.

The Office has an effective and efficient process which ensures that inspection findings are communicated to licensees in a timely manner. Inspection findings are communicated to the licensee using a form similar to NRC's Form 591 (DOH 322-015, Revision 7/2000). These forms are generally used for infractions or deficiencies. A completed form is typically issued onsite upon the completion of an inspection or included in a notice of correction letter. The team determined that, if not issued at the conclusion of the onsite inspection, these forms were issued within 30 days of the inspection. Depending on the findings, the licensee may be required to respond to the Office in writing regarding their corrective actions. Of the 25 inspection files reviewed by the review team, only one inspection summary was issued beyond the 30-day goal.

During the review period, the Office granted 40 core reciprocity licenses. The Office exceeded the 20 percent criteria prescribed in NRC IMC 1220 for each year and inspected a total of 21 licensees.

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

3.3 Technical Quality of Inspections

The team evaluated the inspection reports, enforcement documentation, and inspection field notes and interviewed inspectors for a total of 20 materials inspections conducted during the review period. The casework included all of the Office's materials inspectors, and covered inspections of various types as follows: waste processing, research and development, portable gauge, medical broad scope, veterinary, gamma stereotactic radiosurgery, manufacturing and distribution, service (source exchange), well logging, industrial radiography, research and development broad scope, medical institution, and nuclear pharmacy. Appendix C lists the inspection casework files reviewed for completeness and adequacy with case-specific comments.

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

The review team found that violations are categorized into severity levels which can later be used for escalated enforcement, if necessary. All inspections are peer reviewed by another staff member of the Radioactive Materials Section. In addition, 10 percent of the inspection reports are also reviewed by the Section Supervisor. The team found that the Radioactive Materials Section has a good process for reviewing inspection documentation, making any needed changes, and providing the inspector with feedback regarding the quality of the document.

The Radioactive Materials Supervisor conducts supervisory accompaniments of each materials inspector at least once a year. Inspectors are provided with feedback regarding their performance after the accompaniment and the results are documented.

The review team accompanied four Radioactive Materials Section inspectors from August 4 through 7, 2003 during inspections at a medical institution, a research and development facility, and two portable gauge licensees which are identified in Appendix C. During the accompaniments, the inspectors

demonstrated appropriate performance-based inspection techniques and knowledge of the regulations. The inspectors were well prepared and thorough in their review of the licensee's radiation safety program. The inspections were adequate to assess radiological health and safety at the licensed facility.

As noted in the questionnaire, the Radioactive Materials Section has an adequate number and variety of portable survey instruments to support the current inspection program, as well as for responding to incidents and emergency conditions. Appropriate documentation of calibrated survey instruments is maintained and tracked in a database. Instruments requiring calibration are delivered to the Northwest Radiation Instrument Calibration Facility at the University of Washington. The Office utilizes the Department's laboratory for a variety of analytical analyses including liquid scintillation, gamma spectroscopy, and low background beta/gamma counting. The Office has a staff member in the Environmental Radiation Section who is the liaison with the laboratory to coordinate the appropriate analyses and ensure timely feedback of results.

The team also reviewed the Office's oversight of the Allied Technology Group Inc. (ATG) facility in Richland, Washington. The Waste Management Section is responsible for the inspection and licensing oversight of this facility. The licensee has a number of complex waste treatment operations, provides decontamination and demolition services and other environmental and cleanup activities associated with radiological materials. The facility holds two licenses involving treatment of radioactive waste and mixed waste. ATG went through some financial difficulties and announced bankruptcy in December 2001. Subsequently, ATG's operations were substantially reduced during the bankruptcy period. Currently, ATG is finalizing its negotiation to transfer its ownership to Pacific EcoSolutions, LLC.

On July 29, 2003, members of the review team visited the ATG facility and observed licensee operation, as well as the Office's surveillance of the facility. Inspectors are at the facility several times a month and have intimate knowledge of the operations and status of the site. The team also reviewed inspection and ALARA reports regarding this facility and determined that the Waste Management Section's findings were well documented and supported. The Waste Management Section took appropriate action to resolve health and safety issues including those involving legacy waste and occupational doses which were above administrative limits, but lower than regulatory limits, during calendar year 2000.

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

3.4 Technical Quality of Licensing Actions

The review team examined completed licenses and casework for 24 materials licensing actions representing the work of seven license reviewers. The license reviewers 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: waste processing, academic, medical broad scope, industrial broad scope, industrial radiography, radiopharmacy, commercial services, portable gauges, gamma knife, high dose rate remote afterloader, manufacturing and distribution, and research and development. Licensing actions included four new licenses, nine renewals, one termination, and ten amendments. A list of these licenses with case-specific comments can 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 a license reviewer. If needed, the reviewer generates a deficiency letter and produces a draft licensing action upon final resolution of all deficiency items. 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 license reviewers in the Radioactive Materials Section have signature authority and sign their own licensing actions. The QA reviewer initials each final licensing action. Each license reviewer uses boilerplate licenses for their type of licensing actions (i.e., industrial, medical, or laboratory) to ensure consistency in standard licenses.

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 Office application and regulatory guides. In general, checklists for each type of license are used and kept with the license file. These documents are mostly complete, well organized, available to reviewers, and appear to be followed.

The Radioactive Materials Section is currently operating with a backlog of only a few licensing actions. By policy, the Radioactive Materials Section does not grant variances from licensing policy or procedure or exemptions to the regulations. As such, no exemptions or variances were granted during the review period. No changes were made in written licensing procedures during the review period.

The review team determined that the Radioactive Materials Section had not fully implemented the financial assurance for decommissioning requirements of the regulations. Examinations of licenses reveal that several licenses authorize radioactive material in types and quantities requiring financial assurance commitments. The team noted that of the nine licenses of this type reviewed, seven did not address those requirements. The matter was discussed with Radioactive Materials Section license reviewers and management. They agreed that not enough emphasis had been placed on verifying that licensees had complied with those portions of the regulations dealing with financial assurance for decommissioning. The review team recommends that the Office develop and implement a plan to adequately and consistently address the financial assurance for decommissioning portions of material license regulations.

At the December 10, 2003 MRB meeting, Office management presented a plan to address this recommendation. The plan described the steps the Office plans to take in response to the recommendation, as well as a timeline for completion. The MRB noted the Office's quick and thorough response to the recommendation.

The team reviewed the Waste Management Section's licensing oversight of the ATG facility (see Section 3.3). The Section issued a mixed waste license to ATG in November 1999 which initially authorized limited operations and quantities of licensed materials. As the licensee successfully demonstrated various operations, the license was amended on numerous occasions to expand operations and authorized quantities of licensed material. The Office has been actively addressing bankruptcy and financial assurance issues, particularly those related to the transfer of the license and the legal implications regarding financial surety. The Office currently holds adequate funds for radioactive waste financial surety and mixed waste financial surety. The team also reviewed a selection of license amendments for both licenses as indicated in Appendix D. The team determined that the Office's handling of the ATG licensing issues was appropriate and in accordance with State regulations.

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

3.5 Response to Incidents and Allegations

In evaluating the effectiveness of the Radioactive Materials Section's actions in responding to incidents, the review team examined the Office's response to the questionnaire regarding this indicator, evaluated selected incidents reported to the "Nuclear Material Events Database" (NMED) against those contained in the Office files, and evaluated the casework and supporting documentation for 19 material incidents. A list of incident casework examined is contained in

Appendix E. The team also evaluated the Radioactive Materials Section's response to eight materials allegations, three of which were referred to the Office by NRC during the review period.

The review team discussed the Office'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 by Radioactive Materials Section and Waste Management Section management and staff.

When notification of an incident or an allegation is received, the Radioactive Materials Section Supervisor 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 nineteen incidents selected for review included, four losses or theft of gauges, three overexposures, four damaged or failed equipment problems, four damaged or leaking sources, two releases of licensed material, one transportation problem, and one potential release. 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 appropriate enforcement actions when appropriate. 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.

The Department has two relevant policies on the disclosure of information. Department policy 17-005 addresses Employee Responsibilities with Confidential Information and policy 17-003 addresses Public Disclosure. All requests for public information must be sent to the Department Public Disclosure Coordinator for a determination whether the information can be disclosed or is exempt from disclosure. The policies specify the information that is exempt from disclosure, including the protection of an alleger's identity, and direct all offices to have procedures and train employees in those procedures. Within the Office, both the Radioactive Materials Section and the Waste Management Section have developed separate, but equivalent, incident and allegation procedures. Waste Management Section procedures are discussed in Section 4.3.5. The Radioactive Materials Section has written guidance on Investigations, 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 during the review period were appropriately reported to the NRC Operations Center and the NMED database contractor.

During the review period, there were three materials allegations referred to the Office by the NRC and ten allegations reported directly to the program. The review team noted that allegations are maintained in a locked file. The review of the Office's allegation files indicated that the Office 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. Written response to allegers is part of the allegation close out procedure and was noted in all of the allegation files.

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

4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State programs: (1) Legislation and Program Elements Required for Compatibility; (2) Sealed Source and Device Evaluation Program; (3) Low-Level Radioactive Waste Disposal Program; and (4) Uranium Recovery Program. 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 Office provided the review team with the opportunity to review copies of legislation that effect the radiation control program. The 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 program also is affected by RCW 70.94, Washington Clean Air Act. The Department is designated as the State's radiation control agency and implements the radiation control program. There were no changes to the legislation that affect the radiation control program during the review period.

4.1.2 Program Elements Required for Compatibility

RCW applies to all ionizing radiation and provides the statutory authority for radioactive materials, the low-level radioactive waste, and the uranium mill programs. Regulations are provided in the Washington Administrative Code. 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 approximately six to eight 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 affected 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 Office 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 Office'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 of State and Tribal Programs' State Regulation Status Data Sheet. The review team noted that since the September 1999 review, the State adopted 10 NRC amendments through four rulemaking packages.

Current NRC policy requires that Agreement States adopt certain equivalent regulations or legally binding requirements no later than three years after they become effective. The review team found that the Office currently has no overdue NRC amendments.

The Office will need to address the following three regulations in upcoming rulemakings or by adopting alternate legally binding requirements:

- "Requirements for Certain Generally Licensed Industrial Devices Containing Byproduct Material" 10

CFR Parts 30, 31, 32 amendments (65 FR 79162) that became effective on February 16, 2001. 10 CFR 32.52 (a) and (b) amendments were to be implemented by States within six months, August 16, 2001. The team determined that section 246-233-020(4)(c)(vii) of the State's regulations contains the reporting requirement that meets the compatibility requirements of 10 CFR 32.52 (a) and (b).

- "Revision of the Skin Dose Limit" 10 CFR Part 20 amendment (67 FR 16298) that became effective on April 5, 2002.

- "Medical Use of Byproduct Material" 10 CFR Parts 20, 32, and 35 amendments (67 FR 20249) that became effective on April 24, 2002.

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

4.2 Sealed Source and Device Evaluation Program

In conducting this review, three sub-indicators were used to evaluate the Office's performance regarding their Sealed Source & Device (SS&D) Evaluation Program. These sub-indicators include: (1) Technical Staffing and Training; (2) Technical Quality of the Product Evaluation; and (3) Evaluation of Defects and Incidents Regarding SS&Ds.

In assessing the Radioactive Materials Section's SS&D evaluation program, the review team examined information provided in the response to the IMPEP questionnaire on this indicator. A review of all new and amended SS&D evaluations, addressing NRC regulated radioactive materials, 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 Supervisor and the other SS&D reviewers, and verified the use of regulations, conditions, and inspections to enforce commitments made in the applications.

4.2.1 Technical Staffing and Training

The Radioactive Materials Section Supervisor and the lead license reviewer for medical licensing conduct the SS&D reviews. Dependent upon whether a product's intended use is industrial or medical, one serves as primary reviewer while the other serves as concurrence reviewer. Both individuals sign the registry sheet and both have attended the SS&D workshops sponsored by NRC. Both individuals have several years experience reviewing radioactive materials license and SS&D applications. The Radioactive Materials Section Supervisor is committed to maintaining a high degree of quality in their SS&D reviews and related that two more staff members will be attending the next SS&D workshop scheduled for September 22 - 26, 2003. If issues require review pertaining to engineering principles, the SS&D reviewers refer their questions to the staff professional engineer. The team determined that the reviewers have sufficient technical training required for SS&D reviews.

4.2.2 Technical Quality of the Product Evaluation Program

During the review period, 10 SS&D certificates were issued by the Office. Three new and two amended certificates, completed by both SS&D reviewers, addressing byproduct radioactive material were evaluated for this review. The remaining certificates authorized the use of naturally occurring or accelerator produced radioactive materials (NARM) sources and devices. The SS&D certificates evaluated by the review team are listed with case-specific comments in Appendix F.

Analyses of the files and interviews with staff confirmed that the Office follows the recommended guidance from the NRC SS&D training workshops and NUREG-1556, Volume 3, issued in July 1998. The appropriate review checklist from NUREG-1556, Volume 3, Appendix C, were used to assure that relevant materials had been submitted and reviewed. The checklists were retained in the registration files. All pertinent American National Standards Institute/Health Physics Society standards, Regulatory Guides, and applicable references were confirmed to be available and were used when performing SS&D reviews.

Registrations clearly summarized the product evaluations to provide license reviewers with adequate information to license the possession and use of the products. Deficiency letters clearly stated regulatory positions and all health and safety issues were properly addressed. The review team determined that the product evaluations were thorough, complete, consistent, of acceptable technical quality, and adequately addressed the integrity of the products during use and in the event of an accident.

Of the registration files reviewed, all were found to contain all correspondence, photographs, engineering drawings, radiation profiles, and results of tests conducted by the applicant. As previously noted, the Office has the ability to refer engineering issues to a staff professional engineer to verify product integrity and design parameters. Several of the registration files include memorandums from the staff professional engineer documenting detailed engineering examinations.

4.2.3 Evaluation of Defects and Incidents Regarding SS&Ds

Although not reported in the questionnaire, one incident involving a device related to an SS&D registration issued by the Office was found in NMED by the review team, as indicated in Appendix E. The team determined that the incident was handled appropriately, and that the root cause was properly determined. No revision to the SS&D's safety evaluation sheet was necessary.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Washington's performance with respect to the indicator, Sealed Source and Device Evaluation Program, was satisfactory.

4.3 Low-Level Radioactive Waste Disposal Program

In conducting the IMPEP review, the team used five sub-indicators to evaluate the Office's performance regarding its low-level radioactive waste (LLRW) disposal program. These indicators include: (1) Technical Staffing and Training; (2) Status of the Low-Level Radioactive Waste Disposal Inspection Program; (3) Technical Quality of Inspections; (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.

The Waste Management Section currently licenses US Ecology, Inc. (USE) to receive, handle, process, store, and dispose of LLRW at the Hanford site.

4.3.1 Technical Staffing and Training

The Waste Management Section currently has nine full-time and/or part-time staff members with a total staffing level of 4.65 FTE. The LLRW program is also supported by other Sections within the Office and by U.S. Department of Energy (DOE) contractors. The staff currently supporting the LLRW program include the Waste Management Section Supervisor, an administrative assistant, and staff with diversified backgrounds in health physics, nuclear engineering, hydrogeology, geochemistry, geotechnical engineering, mechanical engineering, and civil engineering. Since the last review in 1999, four staff associated with LLRW program left the Waste Management Section and have been reassigned to support other activities within the Office. An experienced staff member was promoted to Section Supervisor. The Section hired a new full staff member to conduct LLRW inspections. The review team noted that the current staffing level is approximately two FTE lower than at the previous review. The staff reduction is related to completion of the work associated with the Environmental Impact Statement (EIS) development activities. The team determined that the current staffing level is adequate to maintain the quality and performance of the LLRW program.

The Waste Management Section has a documented training and qualification program for staff to perform licensing, inspection, and investigation for LLRW activities. The Section has an established procedure for staff training consistent with the NRC/OAS Joint Working Group Report and NRC IMC 1246. The Waste Management Section Supervisor has established plans for new staff training and for staff assigned to carry out new duties.

The review team reviewed the training and qualification records of the staff and found them up-to-date and complete. The review team determined that most of the staff attended the required training and recommended training courses in accordance with Office requirements and consistent with NRC IMC 1246. Based on interviews with the professional and administrative staff and an examination of staff

qualifications, duties, and functions, the review team concluded that the LLRW staff was highly qualified with sufficient training to carry out regulatory duties regarding licensed operations at the USE facility.

4.3.2 Status of Low-Level Radioactive Waste Disposal Inspection Program

The disposal site is inspected annually as prescribed in NRC IMC 2800. Annual inspections are completed over the course of the year using partial inspections, with each partial inspection focusing on a different area. In addition to the annual inspections, the Waste Management Section onsite representative performs routine (e.g., monthly) inspections of the site looking at a shorter list of site requirements. The review team confirmed the frequency of inspections through a review of inspection report files, accompanying Waste Management Section inspectors on July 29, 2003 at the Hanford facility (see Appendix C), and interviews with the inspectors.

The review team evaluated the Office's capability for maintaining and retrieving data on the status of inspections. The Waste Management Section Supervisor uses a spreadsheet to track the status of inspections. This spreadsheet lists the portion of the annual inspection, the date of last inspection, and the inspector assigned to each portion of the annual inspection. A copy of this spreadsheet was placed in the annual inspection files for 2000, 2001, and 2002. The review team also reviewed the Section Supervisor's working copy of the spreadsheet and concluded that this tool was appropriate for tracking the status of LLRW inspections.

The review team found that inspection findings are communicated to the licensee in a timely manner. As indicated in Section 3.2 above, the Waste Management Section issues inspection findings to the licensee using a form similar to NRC's Form 591, which is typically issued onsite upon completion of an inspection, or included in a notice of correction letter. The review team determined that these forms were issued by the Waste Management Section within 30 days of the inspection and in many cases at the conclusion of the onsite inspection.

4.3.3 Technical Quality of Inspections

The Waste Management Section inspection procedures detail the frequency of inspections, inspection preparation requirements, and inspection reporting requirements, as well as contain the checklist of licensing requirements. The procedures also include appropriate forms and sample letters for documenting findings. The onsite inspector maintains a set of more specific inspection procedures.

The findings from the inspector accompaniments conducted by the review team, as well as staff interviews and a review of inspection files, indicate that Office inspection findings were well documented and supported. The review team found that the Waste Management Section monthly and annual inspections were thorough, technically accurate, complete, consistent, and of high quality with sufficient documentation to ensure that the licensee's performance with respect to protecting health and safety was acceptable. A review of the completed inspection reports show that inspections are complete and reviewed promptly by the Waste Management Section Supervisor. The review team found that follow-up inspections addressed previously identified open items and 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 licensee, and some digital photographs of the site. Onsite files include information on waste generators, weekly summary of shipments, fence-line surveys performed by the inspector, and waste container inspections. The review team also determined that supervisory accompaniments of each onsite inspector were completed annually.

On July 28, 2003, review team members accompanied two Waste Management Section inspectors at USE's facility as indicated in Appendix C. During the accompaniments, the inspectors demonstrated appropriate performance-based inspection techniques and knowledge of the regulations. The inspectors were well prepared and thorough in their review of the licensee's radiation safety program. The inspections were adequate to assess radiological health and safety at the licensed facility.

4.3.4 Technical Quality of Licensing Actions

The USE license establishes regulatory conditions and procedures that must be complied with regarding waste acceptance, site operation, and environmental monitoring. The USE license has been in timely renewal since January 1997. 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 EIS that will consider various options for closure of the site. The EIS was initiated under the provisions of the State Environmental Policy Act (SEPA) and is tentatively scheduled for completion by the end of 2003.

SEPA requires an environmental review for actions potentially having a significant adverse environmental impact. A significance determination was issued by the State on February 14, 1997. As a result, the Department of Health and the Department of Ecology jointly decided to prepare an EIS. Consequently, the Waste Management Section decided to forego renewal of the operating license until completion of the EIS. The State initiated the EIS process by conducting public scoping meetings in Seattle, Spokane, and Richland, Washington, during the spring of 1997. The State issued a draft EIS on September 13, 2000. The State received significant comments and concerns from the public and stakeholders on the draft EIS. These comments and concerns are being addressed in preparing the final EIS.

The review team reviewed the draft EIS, environmental monitoring data, facility closure and stabilization plan, and technical evaluation reports and interviewed most of the staff involved in the preparation of these documents. The team found that these documents were thorough, complete, consistent, and of acceptable technical quality.

The team and the Waste Management Section staff discussed performance assessment approaches and methodologies used in demonstration of compliance with State dose criteria. The review team noted NRC staff's recommended performance assessment methodology and approaches documented in NUREG-1573, "Performance Assessment Methodology for LLRW

Disposal Facilities - Recommendations of NRC's Performance Assessment Working Group," and provided a copy to the Office for reference.

The review team reviewed the four license amendments to the USE license issued by the Waste Management Section during the review period as indicated in Appendix D. These amendments involved revisions to facility standard manual, Hanford site operation procedures, action levels, and frequency of audits for vendors, as well as administrative changes. The review team found that the licensing actions were thorough, complete, consistent, and of high quality, with health and safety issues properly addressed.

4.3.5 Response to Incidents and Allegations

The review team found that the Waste Management Section has procedures in place for handling incidents and allegations. The procedures for handling incidents include information on what constitutes an incident, appropriate documentation of the incident, reference to NRC abnormal occurrences criteria for States, and tracking the incident by management. The procedures for handling allegations include information on protecting the identity of the alleger, documentation of the allegation, and tracking the allegation by management.

During the review period, there were no incidents and one allegation pertaining to the LLRW program. The team found that actions taken by the Waste Management Section in response to the allegation were appropriate, well coordinated, timely, and the level of effort commensurate with concerns raised.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Washington's performance with respect to the indicator, Low-Level Radioactive Waste Disposal Program, was satisfactory.

4.4 Uranium Recovery Program

In conducting this IMPEP review, five sub-indicators were used to evaluate the Waste Management Section's performance regarding its uranium recovery program. These indicators include: (1) Technical Staffing and Training; (2) Status of Uranium Recovery Inspection Program; (3) Technical Quality of Inspections; (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.

The Western Nuclear, Inc., Sherwood Project, completed remediation at the end of the last review period in 1999, and the license was terminated in March 2000. The NRC reviewed the Office's license termination process for the Sherwood site pursuant to 10 CFR 150.15a(a) and Section 274(c) of the Atomic Energy Act of 1954, as amended. By letter dated December 27, 2000, the NRC concurred with the Office's Sherwood Project license termination. Consequently, the team did not review the Sherwood Project during this review.

At the time of this review, the Waste Management Section had one licensed conventional mill site, Dawn Mining Company (Dawn). This site was placed in shutdown and initiated reclamation and decommissioning activities in 2001.

4.4.1 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 a general examination

of staff training records and qualifications of the reviewers assigned to perform reviews of the surface water hydrology and erosion protection aspects of site closure.

During the review period, there was no staff turnover in the uranium recovery program. Based on discussions with management, no turnover was expected in the immediate future. Various members of the Waste Management Section staff participated in inspections and licensing activities at the Dawn site. The level of participation of each staff member varied based on individual qualifications and workload. Currently, the Waste Management Section is training a new staff member who had extensive radiation safety expertise at an uranium mill.

The review team found that staff had adequate health physics and engineering backgrounds. Much of the staff's expertise was gained through oversight of the Dawn and Sherwood facilities. The expertise of Waste Management Section staff was further supplemented by the use of professional engineers and technical experts from other Federal and State agencies in the areas of health physics and engineering. The review team concluded that the qualifications of the inspectors and reviewers were sufficient to regulate the Dawn site.

4.4.2 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, and timely issuance of inspection reports. The review team's evaluation was based on a review of the questionnaire response, the uranium recovery inspection schedule, inspection casework files, and interviews with inspection staff and management.

During Dawn's demolition stage, partial inspections were performed approximately every week, with each inspection focusing on a different inspection area. The review team determined that all inspection areas were covered at least once per year and included construction, decommissioning, and environmental reviews. Additional inspections were conducted in areas where repetitive deficiencies were identified. During the last three years, Waste Management Section staff conducted 23 mill inspections of the Dawn site in three specific areas: (1) mill site compliance, (2) mill demolition, and (3) water treatment facility operations.

Based on the team's review of inspection files, it was determined that the Waste Management Section's inspection frequency was more frequent than the recommendations in NRC IMC 2801, "Uranium Mill and 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program." As a result of frequent inspections, the review team concluded that there were no overdue inspections, and Waste Management Section's inspection practices were adequate.

The team reviewed inspection casework files and noted that inspection reports were issued within 30 days of the inspection. Appropriate follow-up actions were conducted when items of noncompliance were identified. Inspection casework files were easily retrieved and accessible. The inspection reports were reviewed by management and received appropriate attention.

4.4.3 Technical Quality of Inspections

In reviewing this sub-indicator, the review team examined inspection files, inspection reports, and enforcement documentation for the Dawn site as identified in Appendix C. The review included most of the inspections conducted at Dawn during the review period. The review team noted that inspections covered

a range of uranium recovery inspection activities associated with reclamation operations at Dawn. Inspectors and management were interviewed to assess the adequacy of their preparation for the inspections, the depth and content of the inspections, and the appropriateness of inspection findings.

The team noted that the Waste Management Section's inspection program and procedures were consistent with NRC Inspection Procedure 87654, "Uranium Mill, In-Situ Leach Uranium Recovery, 11e.(2) Byproduct Material Disposal Site Decommissioning Inspection." Inspectors typically and appropriately observed licensee operations and made independent measurements during inspections, as appropriate. Inspectors used relevant procedures with mill-specific checklists, previous inspection reports, and other background information for implementing their inspections. Inspections covered an appropriate number of functional areas. The review team found that the inspection reports provided appropriate depth of coverage, addressed license conditions and the regulations, and demonstrated that the inspectors pursued corrective actions for items of noncompliance that were identified.

During the review period, the uranium recovery inspectors were accompanied by their supervisors annually. These accompaniments were adequately documented. The review team found that the Waste Management Section Supervisor routinely met with the uranium recovery inspectors to review inspection findings and to plan follow-up strategy regarding corrective actions.

4.4.4 Technical Quality of Licensing

The Waste Management Section uses a team approach to review various aspects of a reclamation plan and other licensing actions. Any expertise that is not available in the Waste Management Section is supplemented through the use of other State agencies or various engineer and professional consultants.

The team evaluated one license amendment that was issued to Dawn in April 2001, identified in Appendix D. Through review of the Dawn licensing files and discussions with the Waste Management Section staff and the Section Supervisor, the review team determined that this licensing action was adequately evaluated and documented and that the license conditions were clear and well-written.

In addition to the one amendment, the team noted that a number of changes to procedures tied to the Dawn license were reviewed and approved in writing by the Waste Management Section in accordance with the license. Based on a review of a sampling of these changes, the review team determined that these actions were adequately reviewed and documented. The team also noted that the Waste Management Section updated their inspection checklists to reflect the approved procedural changes.

During the team's review of the Dawn license, it was noted that Condition No. 18 requires, in part, that the licensee notify the Department in writing 30 days prior to any change in their business structure. This license condition provides the Department with the opportunity to evaluate if changes in the licensee's business structure could adversely affect the licensee's ability to continue to provide adequate decommissioning funding. Normally, a licensee is required to obtain regulatory approval for changes in ownership. However, a licensee could restructure their corporate structures and/or subsidiaries under the same ownership without knowledge of the regulatory agency. This license condition gives the Office the enhanced ability to monitor changes in business structure for potential adverse impacts on its financial and regulatory responsibilities. The review team recommends that the Department's use of this license condition be found a good practice.

4.4.5 Response to Incidents and Allegations

For this sub-indicator, the review team examined the Waste Management Section's procedure for handling uranium recovery incidents and allegations and found them acceptable.

During the review period, Waste Management Section responded to one allegation in the uranium recovery area. Based on a review of the casework file, the team determined that the Waste Management Section promptly responded to the allegation. There were no reportable incidents during the review period.

Based on the IMPEP evaluation criteria, the review team recommended and the MRB agreed that Washington's performance with respect to the indicator, Uranium Recovery Program, was satisfactory.

5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team and the MRB found Washington's performance to be satisfactory for all nine performance indicators. Accordingly, the review team recommended and the MRB concurred in finding the Washington Agreement State program to be adequate to protect public health and safety and compatible with NRC's program. Based on the results of the current IMPEP review, it was agreed that the next full review should be in approximately four years.

Below is the recommendation, as mentioned earlier in the report, for evaluation and implementation, as appropriate, by the State.

RECOMMENDATION:

> The review team recommends that the Office develop and implement a plan to adequately and consistently address the financial assurance for decommissioning portions of material license regulations. (Section 3.4)

GOOD PRACTICES:

1. The Office has an outreach program for providing emergency response training to first responders, hospital staff, and local government health agencies for response to radiological events including incidents resulting from terrorist activities. The training includes the use of actual radiation sources and realistic scenarios, and has proved to be an effective tool for augmenting the capability of first responders. (Section 3.1)

2. During the team's review of the Dawn license, it was noted that Condition No. 18 requires, in part, that the licensee notify the Department in writing 30 days prior to any change in their business structure. This license condition provides the Department with the opportunity to evaluate if changes in the licensee's business structure could adversely affect the licensee's ability to continue to provide adequate decommissioning funding. This license condition gives the Office the enhanced ability to monitor changes in business structure for potential adverse impacts on its financial and regulatory responsibilities. (Section 4.4.4)

LIST OF APPENDICES AND ATTACHMENTS

Appendix A	IMPEP Review Team Members
Appendix B	Washington Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Appendix F	Sealed Source and Device Casework Reviews
Attachment	October 30, 2003 Letter from Janice Adair, Acting Assistant Secretary, Washington Department of Health

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	**Area of Responsibility**
Duncan White, Region I	Team Leader Status of Materials Inspection Program Technical Quality of Inspections
Vivian Campbell, Region IV	Technical Staffing and Training Technical Quality of Licensing Actions
John Zabko, STP	Response to Incidents and Allegations Legislation and Program Elements Required for Compatibility
Boby Abu-Eid, NMSS Robert Johnson, NMSS	Low-Level Radioactive Waste Disposal Program
Louis Carson, Region IV	Uranium Recovery Program
David Fogle, State of Texas	Technical Quality of Licensing Actions Sealed Source and Device Evaluation Program

APPENDIX B

WASHINGTON ORGANIZATION CHARTS

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APPENDIX C

INSPECTION CASEWORK REVIEWS

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

File No.: 1
Licensee: International Inspection — License No.: WN-IR066
Location: Seattle, WA — Inspection Type: Initial, Unannounced
License Type: Industrial Radiography — Priority: 1
Inspection Date: 7/24/00 — Inspector: AS

File No.: 2
Licensee: Boeing Company — License No.: WN-I005-1
Location: Seattle, WA — Inspection Type: Routine, Announced
License Type: Research and Development Broad Scope — Priority: 2
Inspection Date: 12/10/02 — Inspector: AG

File No.: 3
Licensee: University of Washington — License No.: WN-C001
Location: Seattle, WA — Inspection Type: Routine, Unannounced
License Type: Medical Broad Scope — Priority: 1
Inspection Dates: 11/13-16/00 — Inspectors: RV, MR, LW

Comment:
The inspection report was issued 80 days after completion of inspection.

File No.: 4
Licensee: River Basin Diagnostics — License No.: WN-NP006-01
Location: Kennewick, WA — Inspection Type: Routine, Announced
License Type: Nuclear Pharmacy — Priority: 1
Inspection Date: 10/29/01 — Inspector: MR

File No.: 5
Licensee: Mason General Hospital — License No.: WN-M0214-01
Location: Shelton, WA — Inspection Type: Routine, Unannounced
License Type: Medical Institution — Priority: 5
Inspection Date: 3/27/03 — Inspectors: SM, MR

File No.: 6
Licensee: Genelex Corporation — License No.: WN-L0130
Location: Redmond, WA — Inspection Type: Routine, Announced
License Type: Manufacturing and Distribution — Priority: 3
Inspection Date: 1/30/01 — Inspector: LW

File No.: 7
Licensee: Cardinal Health 414, Inc. License No.: WN-NP003-01
Location: Seattle, WA Inspection Type: Routine, Unannounced
License Type: Nuclear Pharmacy Priority: 1
Inspection Date: 4/18/02 Inspector: CD

Comment:
No reply from licensee to Notice of Violation in the docket file.

File No.: 8
Licensee: Century Geophysical Corporation NRC License No.: 35-04017-04
Location: Centralia, WA Inspection Type: Reciprocity, Announced
License Type: Well Logging Priority: 3
Inspection Date: 9/12/02 Inspector: AS

Comment:
No inspection correspondence issued to licensee.

File No.: 9
Licensee: Nucletron Corporation MD License No.: 27-035-01
Location: Seattle, WA Inspection Type: Reciprocity, Announced
License Type: Service (Source Exchange) Priority: 1
Inspection Date: 1/11/01 Inspector: AG

File No.: 10
Licensee: Lakeside Industries License No.: WN-I0233-01
Location: Issaquan, WA Inspection Type: Routine, Unannounced
License Type: Portable Gauge Priority: 5
Inspection Date: 7/7-15/03 Inspectors: KS, CL

File No.: 11
Licensee: ICOS Corporation License No.: WN-L0142-1
Location: Bothell, WA Inspection Type: Routine, Announced
License Type: Research and Development Priority: 5
Inspection Date: 5/20/03 Inspector: KS

File No.: 12
Licensee: Zipper Zeman Associates License No.: WN-I0507-1
Location: Lynnwood, WA Inspection Type: Routine, Unannounced
License Type: Portable Gauge Priority: 5
Inspection Date: 5/1/00 Inspector: PW

File No.: 13
Licensee: Deaconess Medical Center
License No.: WN-M0237-1
Location: Spokane, WA
Inspection Type: Initial, Unannounced
License Type: Gamma Stereotactic Radiosurgery
Priority: 1
Inspection Date: 10/2/02
Inspector: CD

File No.: 14
Licensee: Cats Exclusive Veterinary Hospital
License No.: WN-L0158-1
Location: Shoreline, WA
Inspection Type: Routine, Unannounced
License Type: Veterinary
Priority: 5
Inspection Date: 1/8/03
Inspector: MR

File No.: 15
Licensee: Swedish Medical Center
License No.: WN-M008-1
Location: Seattle, WA
Inspection Type: Routine, Unannounced
License Type: Medical Broad Scope
Priority: 1
Inspection Date: 9/24/01
Inspector: MR

File No.: 16
Licensee: Geotechnical Testing Laboratory
License No.: WN-I0271-1
Location: Olympia, WA
Inspection Type: Follow-up, Unannounced
License Type: Portable Gauge
Priority: 5
Inspection Date: 5/1/03
Inspector: SM

File No.: 17
Licensee: Evergreen State College
License No.: WN-C-019-1
Location: Olympia, WA
Inspection Type: Routine, Announced
License Type: Research and Development
Priority: 5
Inspection Date: 5/7/03
Inspector: SM

File No.: 18
Licensee: Prolinx, Inc.
License No.: WN-L0171-1
Location: Bothell, WA
Inspection Type: Special, Announced
License Type: Research and Development
Priority: 5
Inspection Date: 2/13/03
Inspector: AG

File No.: 19
Licensee: ATG Richland Corporation
License No.: WN-I0393-1
Location: Richland, WA
Inspection Type: Routine, Unannounced
License Type: Waste Processing
Priority: 1
Inspection Date: CY2000
Inspector: EF

File No.: 20
Licensee: ATG Richland Corporation
License No.: WN-I0508-1
Location: Richland, WA
Inspection Type: Initial, Announced
License Type: Mixed Waste Processing
Priority: 1
Inspection Date: 12/99-6/00
Inspector: EF

File No.: 21
Licensee: Dawn Mining Company
License No.: WN-IO43-2
Location: Ford, WA
Inspection Type: Routine, Announced
License Type: Source Material
Priority: 1
Inspection Dates: Various (3/00 - 8/03)
Inspectors: EF, DS, ME

File No.: 22
Licensee: U.S. Ecology
License No.: WN-I019-2
Location: Hanford, WA
Inspection Type: Routine, Announced
License Type: Waste Disposal
Priority: 1
Inspection Dates: Various (1/00 - 6/03)
Inspectors: Waste Management Section

INSPECTOR ACCOMPANIMENTS

The following inspection accompaniments were made as part of the onsite IMPEP review:

Accompaniment No.: 1
Licensee: Geo Group Northwest
License No.: WN-I0366-1
Location: Bellevue, WA
Inspection Type: Routine, Unannounced
License Type: Portable Gauge
Priority: 5
Inspection Date: 8/4/03
Inspector: PW

Accompaniment No.: 2
Licensee: Anawah Corporation
License No.: WN-L0200-1
Location: Seattle, WA
Inspection Type: Routine, Announced
License Type: Research and Development
Priority: 5
Inspection Date: 8/5/03
Inspector: KS

Accompaniment No.: 3
Licensee: Harrison Memorial Hospital
License No.: WN-M0168-1
Location: Bremerton, WA
Inspection Type: Routine, Unannounced
License Type: Medical Institution, QMP required
Priority: 3
Inspection Date: 8/6/03
Inspector: SM

Accompaniment No.: 4
Licensee: ICON Materials
License No.: WN-I0207-1
Location: Auburn, WA
Inspection Type: Routine, Announced
License Type: Portable Gauge
Priority: 5
Inspection Date: 8/7/03
Inspector: CL

Comment:
Inspector did not interview authorized users.

Accompaniment No.: 5
Licensee: U.S. Ecology
License No.: WN-I019-2
Location: Hanford, WA
Inspection Type: Routine, Announced
License Type: Waste Disposal
Priority: 1
Inspection Date: 7/28/03
Inspectors: SM, ME

APPENDIX D

LICENSE CASEWORK REVIEWS

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

File No.: 1
Licensee: Cats Exclusive Veterinary Hospital, Inc. License No.: WN-L0158-1
Location: Shoreline, WA Amendment No.: 3
License Type: Veterinary Type of Action: Amendment
Date Issued: 6/26/00 License Reviewer: LW

Comment:

Unreviewed correspondence, dated July 2000, detailing changes to the ventilation system was found by review team. The license reviewer stated that the change in facilities was significant enough to warrant a license amendment.

File No.: 2
Licensee: Deaconess Medical Center Gamma Knife License No.: WN-M0237-1
Location: Spokane, WA Amendment No.: NA
License Type: Gamma Knife Type of Action: New
Date Issued: 4/24/02 License Reviewer: CD

Comment:

License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

File No.: 3
Licensee: Fred Hutchinson Cancer Research Center License No.: WN-L042-1
Location: Seattle, WA Amendment No.: 39
License Type: Broad Scope Medical Type of Action: Renewal
Date Issued: 12/11/00 License Reviewer: LW

File No.: 4
Licensee: James Eisenhart License No.: WN-L0144-1
Location: Battle Ground, WA Amendment No.: 3
License Type: Service Type of Action: Termination
Date Issued: 11/6/02 License Reviewer: AS

File No.: 5
Licensee: Keymaster Technologies, Inc. License No.: WN-I0282-1
Location: Kennewick, WA Amendment No.: 27
License Type: Manufacturing and Distribution Type of Action: Renewal
Date Issued: 5/11/00 License Reviewer: AS

File No.: 6
Licensee: Mediquest Therapeutics, Inc. License No.: WN-L0181-1
Location: Seattle, WA Amendment No.: 3
License Type: Research and Development Type of Action: Renewal
Date Issued: 9/8/03 License Reviewer: KS

File No.: 7
Licensee: Professional Service Industries, Inc. License No.: WN-IR021-1
Location: Seattle, WA Amendment No.: 44
License Type: Industrial Radiography Type of Action: Amendment
Date Issued: 9/13/02 License Reviewer: AS

Comments:

a) License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

b) State regulations allow the use of optically stimulated luminescence (OSL) dosimetry. However, a standard license condition contained in this license limits the licensee to only film or thermoluminescent dosimetry.

File No.: 8
Licensee: University of Washington - Harborview Gamma Knife License No.: WN-M0219-1
Location: Seattle, WA Amendment No.: NA
License Type: Gamma Knife Type of Action: New
Date Issued: 2/17/00 License Reviewer: LW

File No.: 9
Licensee: Construction Testing License No.: WN-L092-1
Location: Tacoma, WA Amendment No.: 14
License Type: Portable Gauge Type of Action: Renewal
Date Issued: 8/10/01 License Reviewer: AS

Comment:

License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

File No.: 10
Licensee: University of Washington License No.: WN-C001-1
Location: Seattle, WA Amendment No.: 47
License Type: Medical Broad Scope Type of Action: Renewal
Date Issued: 8/26/99 License Reviewer: LW

Comment:
The licensee submitted a decommissioning funding plan. However, the plan does not contain cost estimates on which to base funding amounts for closure. The licensee has also not supplied the Office with a Statement of Intent.

File No.: 11
Licensee: University of Washington License No.: WN-C001-1
Location: Seattle, WA Amendment No.: 50
License Type: Medical Broad Scope Type of Action: Amendment
Date Issued: 1/6/03 License Reviewer: LW

File No.: 12
Licensee: Longview Inspection License No.: WN-IR067-1
Location: Everett, WA Amendment No.: NA
License Type: Industrial Radiography Type of Action: New
Date Issued: 4/29/02 License Reviewer: AS

Comment:
License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

File No.: 13
Licensee: Swedish Medical Center License No.: WN-M008-1
Location: Seattle, WA Amendment No.: 47
License Type: Medical Broad Scope Type of Action: Renewal
Date Issued: 3/6/00 License Reviewer: CD

Comment:
License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

File No.: 14
Licensee: Cardiovascular Consultants, Inc. License No.: WN-M0211-1
Location: Federal Way, WA Amendment No.: 3
License Type: Nuclear Cardiology Type of Action: Amendment
Date Issued: 12/27/01 License Reviewer: CD

File No.: 15
Licensee: Washington State University License No.: WN-C003-1
Location: Pullman, WA Amendment No.: 56
License Type: Academic Broad Scope Type of Action: Renewal
Date Issued: 6/21/02 License Reviewer: LW

File No.: 16
Licensee: Washington State University License No.: WN-C002-1
Location: Pullman, WA Amendment No.: 57
License Type: Academic Broad Scope Type of Action: Amendment
Date Issued: 2/10/03 License Reviewer: AG

Comment:
Statement of Intent may be invalid based on improper signatory authority.

File No.: 17
Licensee: River Basin Diagnostics License No.: WN-NP006-1
Location: Kennewick, WA Amendment No.: 5
License Type: Nuclear Pharmacy Type of Action: Renewal
Date Issued: 10/30/01 License Reviewer: CD

Comment:
License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

File No.: 18
Licensee: Cardinal Health 412, Inc. License No.: WN-NP008-1
Location: Spokane, WA Amendment No.: 9
License Type: Nuclear Pharmacy Type of Action: Amendment
Date Issued: 4/14/03 License Reviewer: CD

Comment:
License authorizes radioactive material in form and quantity that exceeds limitations for requiring financial assurance for decommissioning. However, the licensee did not submit a decommissioning funding plan or posted the required surety.

File No.: 19
Licensee: Northwest Hospital License No.: WN-M004-1
Location: Seattle, WA Amendment No.: 52
License Type: Medical Institution Type of Action: Amendment
Date Issued: 1/28/02 License Reviewer: CD

File No.: 20
Licensee: STL Richland
Location: Richland, WA
License Type: Research and Development
Date Issued: 8/4/03
License No.: WN-L0146-1
Amendment No.: 9
Type of Action: Amendment
License Reviewer: AG

File No.: 21
Licensee: The Boeing Company
Location: Seattle, WA
License Type: Industrial Broad Scope
Date Issued: 4/17/01
License No.: WN-I005-1
Amendment No.: 28
Type of Action: Renewal
License Reviewer: AS

File No.: 22
Licensee: ATC Associates, Inc.
Location: Wenatchee, WA
License Type: X-Ray Fluorescence
Date Issued: 5/28/02
License No.: WN-I0532-1
Amendment No.: NA
Type of Action: New
License Reviewer: PW

File No.: 23
Licensee: ATG Richland Corporation
Location: Richland, WA
License Type: Waste Processing
Date Issued: 6/13/02
License No.: WN-I0393-1
Amendment No.: 19
Type of Action: Amendment
License Reviewer: EF

File No.: 24
Licensee: ATG Richland Corporation
Location: Richland, WA
License Type: Mixed Waste Processing
Date Issued: 10/12/01
License No.: WN-I0508-1
Amendment No.: 16
Type of Action: Amendment
License Reviewer: EF

File No.: 25
Licensee: Dawn Mining Co.
Location: Ford, WA
License Type: Source Material
Date Issued: 4/11/01
License No.: WN-I043-2
Amendment No.: 23
Type of Action: Amendment
License Reviewers: Waste Management Section

File No.: 26
Licensee: U.S. Ecology
Location: Hanford, WA
License Type: Waste Disposal
Date Issued: Various
License No.: WN-I019-2
Amendment Nos.: 26 through 29
Type of Actions: Amendments
License Reviewers: Waste Management Section

APPENDIX E

INCIDENT CASEWORK REVIEWS

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

File No.: 1
Licensee: Swedish Medical Center
Location: Seattle, WA
Date of Incident: 5/17/01
Investigation Date: 5/17 - 24/01
Incident ID No.: NMED 010492
License No.: WN-M008-1
Type of Incident: Damaged Source
Investigation Type: Telephone, Onsite

File No.: 2
Licensee: PM Testing
Location: East Tacoma, WA
Date of Incident: 3/4/03
Investigation Dates: 3/4/03 - 7/25/03
Incident ID No.: NMED 030196
License No.: WN-IR047-1
Type of Incident: Overexposure
Investigation Type: Onsite

File No.: 3
Licensee: Transalta Centralia Mining LLC
Location: Centralia, WA
Date of Incident: 11/21/00
Investigation Date: 11/21/00 - 2/6/01
Incident ID No.: NMED 000919
License No.: WN-I0241-1
Type of Incident: Equipment Failure
Investigation Type: Telephone, Onsite

File No.: 4
Licensee: Washington Department of Transportation
Location: Yakima, WA
Date of Incident: 6/30/03
Investigation Date: 6/30/03
Incident ID No.: NMED 030650
License No.: WN-L065-1
Type of Incident: Equipment Damage
Investigation Type: Onsite

File No.: 5
Licensee: Earth Consultants Inc.
Location: Bellevue, WA
Date of Incident: 11/27/02
Investigation Date: 11/27/02 - 5/12/03
Incident ID No.: NMED 021132
License No.: WN-L061-1
Type of Incident: Stolen Material
Investigation Type: Telephone

File No.: 6
Licensee: Pacific Northwest Research Institute
Location: Yakima, WA
Date of Incident: 5/08/02
Investigation Date: 5/8/02 - 5/21/02
Incident ID No.: NMED 20506
License No.:WN-L0134-1
Type of Incident: Radioactive Material Release
Investigation Type: Onsite

File No.: 7
Licensee: Washington State University
Location: Pullman, WA
Date of Incident: 1/31/02
Investigation Date: 1/31/02 - 6/4/03
Incident ID No.: NMED 020164
License No.: WN-C003-1
Type of Incident: Leaking Source
Investigation Type: Telephone

File No.: 8
Licensee: Weyerhaeuser Technology Center
Location: Federal Way, WA
Date of Incident: 11/29/01
Investigation Date: 11/29/01 - 12/12/01
Incident ID No.: NMED 011092
License No.: WN-L083-1
Type of Incident: Leaking Source
Investigation Type: Onsite

File No.: 9
Licensee: Zipper Zeman Associates
Location: Lynnwood, WA
Date of Incident: 10/19/00
Investigation Date: 10/19/00 - 12/12/00
Incident ID No.: NMED 000875
License No.: WN-I0507-1
Type of Incident: Stolen Material
Investigation Type: Telephone

File No.: 10
Licensee: Transalta Centralia Mining LLC
Location: Centralia, WA
Date of Incident: 9/13/00
Investigation Date: 9/13/00 - 10/6/00
Incident ID No.: NMED 000697
License No.: WN-I0241-1
Type of Incident: Equipment Failure
Investigation Type: Telephone, Onsite

File No.: 11
Licensee: Pacific Technical Industries
Location: Bellevue, WA
Date of Incident: 9/27/00
Investigation Date: 9/27/00 - 12/7/00
Incident ID No.: NMED 000912
License No.: WN-IR053-1
Type of Incident: Overexposure
Investigation Type: Telephone

File No.: 12
Licensee: Professional Service Industries, Inc.
Location: Spokane, WA
Date of Incident: 9/6/00
Investigation Date: 9/6/00 - 9/8/00
Incident ID No.: NMED 020712
License No.: WN-NP008-1
Type of Incident: Transportation
Investigation Type: Telephone

File No.: 13
Licensee: Northwest Inspection, INC.
Location: Richland, WA
Date of Incident: 12/15/00
Investigation Date: 12/15/00 - 12/18/00
Incident ID No.: NMED 000936
License No.: WN-IR065-1
Type of Incident: Potential Release
Investigation Type: Telephone

File No.: 14
Licensee: Neorx Corporation
Location: Seattle, WA
Date of Incident: 5/2/00
Investigation Date: 5/2/00 - 8/09/00
Incident ID No.: NMED 000295
License No.: WN-L0114-1
Type of Incident: Overexposure
Investigation Type: Onsite

File No.: 15
Licensee: Virginia Mason Medical Center
Location: Seattle, WA
Date of Incident: 5/5/00
Investigation Date: 5/5 - 6/00
Incident ID No.: NMED 010004
License No.: WN-M048-1
Type of Incident: Radioactive Material Release
Investigation Type: Telephone

File No.: 16
Licensee: Professional Services, Inc.
Location: Spokane, WA
Date of Incident: 1/7/00
Investigation Date: 1/7/00 - 2/7/00
Incident ID No.: NMED 000022
License No.: WN-IR021-1
Type of Incident: Lost or Stolen Material
Investigation Type: Telephone

File No.: 17
Licensee: Geoengineers, Inc.
Location: Redmond, WA
Date of Incident: 10/19/99
Investigation Date:10/19/99
Incident ID No.: NMED 990750
License No.: WN-I0204-1
Type of Incident: Damaged Source
Investigation Type: Telephone

File No.: 18
Licensee: Inspection Service, Inc.
Location: Kennewick, WA
Date of Incident: 12/19/99
Investigation Date: 12/19/99 - 6/26/00
Incident ID No.: NMED 000008
License No.: WN-IR064-1
Type of Incident: Lost Source
Investigation Type: Onsite

File No.: 19
Licensee: Transalta Centralia Mining LLC
Location: Centralia, WA
Date of Incident: 10/5/00
Investigation Date:10/5/00 - 2/6/01
Incident ID No.: NMED 000788
License No.: WN-I0241-1
Type of Incident: Failed Equipment
Investigation Type: Onsite

File No.: 20
Licensee: EDAX, Inc. (Keymaster)
Location: Kennewick, WA
Date of Incident: 6/22/00
Investigation Date: 7/10/00
Incident ID No.: NMED 000488
License No.: WN-I0282-01
Type of Incident: Defective Equipment
Investigation Type: Telephone

APPENDIX F

SEALED SOURCE AND DEVICE CASEWORK REVIEWS

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

File No.: 1
Registry No.: WA-0653-D-106-B SS&D Type: X-Ray Fluorescence
Manufacturer: EDAX Portable Products Division (now Keymaster) Model No.: MAP-4 Series
Date Issued: 7/24/00 Type of Action: Amendment

Comment:

The diagram in the certificate was not updated to include the design change from a forward rubber boot to the new forward aluminum boot.

File No.: 2
Registry No.: WA-0653-D-106-B SS&D Type: X-Ray Fluorescence
Manufacturer: EDAX Portable Products Division (now Keymaster) Model No.: MAP-4 Series
Date Issued: 10/10/00 Type of Action: Amendment

File No.: 3
Registry No.: WA-0653-D-107-B SS&D Type: X-Ray Fluorescence
Manufacturer: EDAX Portable Products Division (now Keymaster) Model No.: CT 5000 Series
Date Issued: 4/28/00 Type of Action: New

Comment:

Contrary to guidance from NUREG-1556, Vol. 3, Section 10.5, no specific identical device was identified for either comparison studies or evidence of successful operational history.

File No.: 4
Registry No.: WA-653-D-108-B SS&D Type: X-Ray Fluorescence
Manufacturer: Keymaster Technologies, Inc. Model No.: Benchtop Series
Date Issued: 11/30/01 Type of Action: New

File No.: 5
Registry No.: WA-0510-S-127-S SS&D Type: Medical Brachytherapy
Manufacturer: North American Scientific, Inc. Model No.: MED3633
Date Issued: 6/30/00 Type of Action: New

Comments:

a) SS&D reviewer, concurrence reviewer, and staff professional engineer conducted a site visit in California in support of the review of this evaluation. A great deal of information, including answers to letters of deficiency, was obtained for this evaluation during the site visit, but that information was not documented.

b) Total maximum activity was not reported accurately with front page information. Information reported in the External Radiation Levels portion of the evaluation indicates that each sealed source may contain in excess of twice the amount reported on the front page.

ATTACHMENT

October 30, 2003 Letter from Janice Adair,
Acting Assistant Secretary, Washington Department of Health

ML033180620