

DATED: NOVEMBER 21, 1995

SIGNED BY: RICHARD L. BANGART

Mr. Bruce Miyahara, Secretary
Office of the Secretary
Department of Health
P. O. Box 47890
Olympia, WA 98504-7890

Dear Mr. Miyahara:

This is to transmit the results of the NRC review and evaluation of the Washington radiation control program. This review, which concluded on June 23, 1995, was conducted by Mr. Jack Hornor, State Agreements Officer, Region IV, Walnut Creek Field Office; assisted by Mr. Dennis Sollenberger, Office of State Programs. The results of this review were discussed with Mr. Eric Slagle, Assistant Secretary, Environmental Health Programs, on June 22, 1995, during a video teleconference. Mr. Terry Strong, Director, Division of Radiation Protection, and his supervisory staff, also participated in the discussion.

As a result of our review of the State's program and the routine exchange of information between the NRC and the State, the staff determined that, at this time, the Washington program for the regulation of certain Atomic Energy Act radioactive materials is adequate to protect the public health and safety. However, a finding that the program is compatible with NRC's program is being withheld. Although the State adopted regulations equivalent to the safety requirements for radiographic equipment amendment to 10 CFR Part 34.20, on December 9, 1993 within the three year time frame required by the NRC, the State made the effective date January 10, 1998 instead of the NRC effective date of January 10, 1996.

As part of this review, we also completed our response to Mr. Gary Robertson's request that NRC conduct a peer review of the Dawn Mining Company closure plan approval. We informed Mr. Robertson on May 22, 1995, that we would perform a completeness review of the closure plan approval as part of this routine review of the Washington radiation control program. The completeness review was conducted and is documented in Section 20 of Enclosure 3 "Technical Quality of Licensing Actions."

Please note, there has been a change in the format of this letter from our previous review letters. This letter summarizes the findings regarding all 30 program indicators. Enclosure 1 contains an explanation of our policies and practices for reviewing Agreement State programs. Enclosure 2 summarizes our review findings for program indicators where we have identified recommendations for improvement. We request specific responses from the State on the findings and recommendations in Enclosure 2 within 30 days of this letter. We recognize the delay in our issuance of this letter, and if you require more than 30 days to respond, please let us know. Enclosure 3

presents a summary of the review findings where the State has adequately satisfied the indicator. A response to the items in Enclosure 3 is not required.

We congratulate you and your staff on the overall quality of the Washington radiation control program. With the exception of the compatibility concern noted above, we were particularly pleased to find the State's regulations compatible with those of the NRC. Compatible regulations are an important part of the Agreement State Program and we appreciate the efforts of your staff in successfully adopting, in a timely manner, regulations needed for compatibility.

I appreciate the courtesy and cooperation extended to the NRC staff during the review.

Sincerely,

Richard L. Bangart, Director
Office of State Programs

Enclosures:

1. Application of "Guidelines for NRC Review of Agreement State Radiation Control Programs"
2. Status of Previous Findings and Summary of Review Findings and Recommendations for the Washington Radiation Control Program, July 18, 1992 to June 23, 1995
3. Summary of Assessment of Indicators Fully Satisfied by the Washington Radiation Control Program, July 18, 1992 to June 23, 1995

cc w/encl:

Eric Slagle, Assistant Secretary,
Environmental Health Programs,
Washington Department of Health

Terry R. Strong, Director,
Division of Radiation Protection

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Environmental Health Programs,
Washington Department of Health

Terry R. Strong, Director,
Division of Radiation Protection

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*See previous concurrence.

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Mr. B. Miyahara

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The Chairman
Commissioner Rogers

Application of "Guidelines for NRC Review
of Agreement State Radiation Control Programs"

The "Guidelines for NRC Review of Agreement State Radiation Control Programs" were published in the Federal Register on May 28, 1992, as an NRC Policy Statement. The Guidelines provide 30 indicators for evaluating Agreement State program areas. Guidance as to their relative importance to an Agreement State program is provided by categorizing the indicators into two categories.

Category I indicators address program functions which directly relate to the State's ability to protect the public health and safety. If significant problems exist in several Category I indicator areas, then the need for improvements may be critical.

Category II indicators address program functions which provide essential technical and administrative support for the primary program functions. Good performance in meeting the guidelines for these indicators is essential in order to avoid the development of problems in one or more of the principal program areas, i.e., those that fall under Category I indicators. Category II indicators frequently can be used to identify underlying problems that are causing, or contributing to, difficulties in Category I indicators.

It is the NRC's intention to use these categories in the following manner. In reporting findings to State management, the NRC will indicate the category of each comment made. If no significant Category I comments are provided, this will indicate that the program is adequate to protect the public health and safety and is compatible with the NRC's program. If one or more significant Category I comments are provided, the State will be notified that the program deficiencies may seriously affect the State's ability to protect the public health and safety. If, following receipt and evaluation, the State's response appears satisfactory in addressing the significant Category I comments, the staff may offer findings of adequacy and compatibility, as appropriate, or defer such offering until the State's actions are examined and their effectiveness confirmed in a subsequent review. If additional information is needed to evaluate the State's actions, the staff may request the information through follow-up correspondence or perform a follow-up or special, limited review. NRC staff may hold a special meeting with appropriate State representatives. Comments on Category I indicators that are not significant will not be used as a basis for withholding of findings of adequacy or compatibility.

The Commission will be informed of the results of the reviews of the individual Agreement State programs and copies of the review correspondence to the States will be placed in the NRC Public Document Room. Pursuant to section 274j of the Act, the Commission may terminate or suspend all or a part of its agreement with a State if the Commission finds such termination or suspension is required to protect the public health and safety, or the State has not complied with one or more requirements of section 274 of the Act.

STATUS OF PREVIOUS FINDINGS AND
SUMMARY OF REVIEW FINDINGS AND RECOMMENDATIONS
FOR THE WASHINGTON RADIATION CONTROL PROGRAM
JULY 18, 1992 TO JUNE 23, 1995

SCOPE OF REVIEW

The 24th regulatory program review with Washington representatives was held during the period June 5-23, 1995, in Olympia, WA. This program review was conducted in accordance with the Commission's Policy Statement for reviewing Agreement State Programs published in the Federal Register on May 28, 1992, and the internal procedures established by the Office of State Programs. The State's programs for regulating radioactive materials, low-level radioactive waste disposal, and uranium mills were each reviewed against the 30 program indicators provided in the policy statement. The review included discussions with program management and staff, technical evaluation of selected license and compliance files, review of the State's policies and procedures, and the evaluation of the State's responses to an NRC questionnaire that was sent to the State in preparation for the review.

The State was represented by Terry R. Strong, Director, Division of Radiation Protection; Terry Frazee, Head, Radioactive Materials Section; and Gary Robertson, Head, Waste Management Section.

Jack Hornor, Regional State Agreements Officer, Region IV Walnut Creek Field Office, reviewed the programs for regulating radioactive materials, low-level radioactive waste disposal, and the compliance portion of the uranium mills program. Dennis Sollenberger, Office of State Programs, reviewed uranium mills licensing and closure activities.

CONCLUSION

The State's program for the regulation of certain Atomic Energy Act radioactive materials is, at this time, adequate to protect the public health and safety. However, a finding that the program is compatible with NRC's program is being withheld. Although the State adopted regulations equivalent to the safety requirements for radiographic equipment amendment to 10 CFR Part 34.20, on December 9, 1993 within the three year time frame required by the NRC, the State made the effective date January 10, 1998 instead of the NRC effective date of January 10, 1996.

STATUS OF PROGRAM RELATED TO PREVIOUS NRC FINDINGS

The results of the previous program review were reported to the State in a letter to Kristine M. Gebbie, Secretary, Department of Health, dated August 21, 1992. The current status of those comments are as follows:

1. Administrative Procedures (Category II)

The issues addressed in the following comments have been satisfactorily resolved.

(a) Comment from July 1992 Routine Review

The State's procedures for terminating licenses allow the State three months to act on requests for termination, and do not require documented verification of the final disposition of the radioactive material.

Recommendation from July 1992 Routine Review

We recommend that terminations be handled promptly upon receipt of the request. We also recommend that a check list be developed that documents verification of the final disposition of the material.

June 1995 Status

The State has developed a new certificate, "Disposal of Radioactive Material Certification", which requires the licensee to provide the essential information regarding the disposition of radioactive material for terminated licenses. In addition, a new form must be completed by the reviewer prior to terminating a license or moving radioactive material. This comprehensive form requires the reviewer to verify and document the final disposition by contacting the recipient prior to terminating the license.

It was verified during file reviews and staff interviews that the termination procedures and forms are being used and are working well. All termination actions were timely and thorough.

(b) Comment from July 1992 Routine Review

During the file reviews we noted that enforcement actions were not always consistent among similar cases. We also found the Field Form notices similar to the NRC form 591 were used inconsistently by various inspectors.

Recommendation from July 1992 Routine Review

We recommend that the State develop procedures that uniformly trigger escalated enforcement actions at defined severity levels. The procedures should specify at which levels the use of the short "Field Form" may be used.

June 1995 Status

Improved procedures have been implemented to provide consistency in enforcement actions. These procedures were reviewed and found to be much more specific than the old procedures. Guidelines were established restricting use of the short form to inspections in which there were no violations, no more than two infractions or no more than four deficiencies. It cannot be used if, in the opinion of the inspector, there is any breakdown in the licensee's safety program, such as management inattention or lack of training. In addition, written directions were issued during a May 1994 staff meeting, establishing criteria triggering follow-up inspections in the following cases: five or more deficiencies, three or more infractions, or one or more repeated infractions or violations. File reviews indicated that inspectors are following the procedures and no cases were noted in which the short form had been improperly used.

2. Inspection Reports (Category II Indicator)

The issue addressed in the following comment has been satisfactorily resolved.

Comment from July 1992 Routine Review

Inspection findings should be documented adequately and uniformly in a report describing the scope of inspections, substantiating all items of non-compliance, describing the scope of licensees' programs, and indicating the substance of discussions with licensee management. In seven cases the medical inspection reports failed to adequately document radiation and ancillary worker interviews. Other discrepancies in the files included failure to

document review of the licensee's measurement of air flows, review of liquid effluent records, and review of emergency and operating procedures. Also reports of follow-up inspections did not document exit interviews.

Recommendation from July 1992 Routine Review

The inspection and follow-up report forms should be revised to provide better ways for the inspector to document the complete scope of the inspection including follow up and close out of previous violations, interviews with radiation and ancillary workers, observation of operations, review of records, and the substance of the exit interviews with management.

June 1995 Status

The applicable inspection forms have been modified to better document worker interviews and other inspection findings. During the file reviews it was found that these changes to the medical form had ensured that the inspectors are now documenting worker interviews, exit interviews, and other essential elements of the inspection. No deficiencies were found in the four medical inspection reports that were examined during the review.

CURRENT REVIEW FINDINGS AND RECOMMENDATIONS

All 30 indicators were reviewed and the State fully satisfies 26 of these indicators. Recommendations were made on four indicators discussed below. The Category I findings provided, except for the "Status and Compatibility of Regulations" indicator, are not "significant" Category I indicator comments and recommendations, as defined in Enclosure 1. The remaining 26 indicators are discussed in Enclosure 3. A questionnaire containing the 30 indicators with specific questions pertaining to each indicator was sent to the State prior to the review.

The assessments and recommendations below are based upon the evaluation of the State's written response to the questionnaire, comparison with previous review information, review of the State's written procedures and policies, discussions with program managers and staff members, review team observations, and licensing and inspection casework file reviews. Specific assessments and recommendations are as follows:

1. Status and Compatibility of Regulations (Category I)

NRC Guidelines

The State must have regulations essentially identical to 10 CFR Part 19, Part 20 (radiation dose standards, effluent limits, waste manifest rule and certain other parts), Part 61 (technical definitions and requirements, performance objectives, financial assurances) and those required by UMTRCA, as implemented by Part 40.

The State should adopt other regulations to maintain a high degree of uniformity with NRC regulations.

For those regulations deemed a matter of compatibility by NRC, State regulations should be amended as soon as practicable but no later than 3 years.

The radiation control program (RCP) should have established procedures for effecting appropriate amendments to State regulations in a timely manner, normally within 3 years of adoption by NRC.

Opportunity should be provided for the public to comment on proposed regulation changes (Required by UMTRCA for uranium mill regulation).

Pursuant to the terms of the Agreement, opportunity should be provided for the NRC to comment on draft changes in State regulations.

Assessment

A review of the State regulations revealed that the State is up-to-date in adopting compatible regulations within the three-year period. Correspondence records showed that the State provided drafts of the proposed regulations to the NRC and made the NRC suggested changes before submitting them for final adoption.

During this review period the following regulations were adopted by the State: "Emergency Planning Rule," 10 CFR Parts 30, 40, and 70 amendments which were needed by April 7, 1993, were adopted on December 21, 1994; "Standards for Protection Against Radiation," 10 CFR Part 20 amendment which was needed by January 1, 1994, was adopted on December 9, 1993; "Safety Requirements for Radiographic Equipment," 10 CFR Part 34 amendment which was needed by January 10, 1994, was adopted on December 9, 1993; "Notification of Incidents," 10 CFR Parts 20, 30, 31, 34, 39, 40, and 70, which were needed by October 15, 1994, were adopted on December 21, 1994, (after emergency adoption for 120 days in September 1994); and "Quality Management Program and Misadministrations" 10 CFR 35, which was needed by January 27, 1995, was adopted on December 21, 1994.

However, the routine review revealed a compatibility concern regarding a Washington State rule that was not previously identified during our earlier review of the State's regulations. Although the State adopted regulations equivalent to the safety requirements for radiographic equipment amendment to 10 CFR Part 34.20, on December 9, 1993 within the three year time frame required by the NRC, the State made the effective date January 10, 1998 instead of the NRC effective date of January 10, 1996.

Additionally, the State should note the following rules that will need to be adopted to maintain compatibility:

- "Licenses and Radiation Safety Requirements for Irradiators", 10 CFR Part 36 (58 FR 7715) that became effective on July 1, 1993 and may need to be adopted by July 1, 1996. With respect to this rule, however, State management staff indicated that the State has no licensees that are subject to this rule and they are aware of no plans or current interest in the public or private sector to build a large irradiator. If there are no licensees in the State that would be subject to this rule, it is acceptable to the NRC that the State defer adoption of the rule. To defer adoption, the State must confirm to NRC that there are no facilities subject to the rule and that if an application for an irradiator subject to the rule were to be received, the State would take action to adopt a compatible Part 36 rule, and until such rule became effective, to incorporate the provisions of Part 36 through license conditions.
- "Definition of Land Disposal and Waste Site QA Program," 10 CFR Part 61 amendments (58 FR 33886) that become effective on July 22, 1993 and will need to be adopted by July 22, 1996.
- "Decommissioning Recordkeeping and License Termination: Documentation Additions," 10 CFR Parts 30, 40, 70, and 72 amendments (58 FR 39628)

that became effective on October 25, 1993 and will need to be adopted by October 25, 1996.

- "Self-Guarantee as an Additional Financial Mechanism," 10 CFR Parts 30, 40, and 70 amendments (58 FR 68726 and 59 FR 1618) that became effective on January 28, 1994 and will need to be adopted by January 27, 1997.
- "Uranium Mill Tailings Regulations: Conforming NRC Requirements to EPA Standards," 10 CFR Part 40 amendments (59 FR 28220) that became effective on July 1, 1994 and will need to be adopted by July 1, 1997.
- "Timeliness in Decommissioning of Materials Facilities," 10 CFR Parts 30, 40, and 70 amendments (59 FR 36026) that became effective on August 15, 1994 and will need to be adopted by August 15, 1997.
- "Preparation, Transfer for Commercial Distribution, and Use of Byproduct Material for Medical Use," 10 CFR Parts 30, 32, and 35 amendments (59 FR 61767, 65243, and 60 FR 322) that became effective on January 1, 1995 and will need to be adopted by January 1, 1998.
- "Frequency of Medical Examinations for use of Respiratory Protection Equipment," 10 CFR Part 20 amendments (60 FR 7900) that became effective on March 13, 1995 and will need to be adopted by March 13, 1998.
- "Low-Level Waste Shipment Manifest Information and Reporting," 10 CFR Parts 20 and 61 amendments (60 FR 15649) that was published on May 16, 1995 and will become effective on March 1, 1998 and will need to be adopted by March 1, 1998. Please refer to All Agreements State Letter 95-086 for further information on the compatibility designation for this rule.

Recommendation

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.

2. Response to Actual and Alleged Incidents (Category I)

NRC Guidelines

Inquiries should be promptly made to evaluate the need for onsite investigations. Onsite investigations should be promptly made of incidents requiring reporting to the Agency in less than 30 days (10 CFR 20.403 types). For those incidents not requiring reporting to the Agency in less than 30 days, investigations should be made during the next scheduled inspection.

Onsite investigations should be promptly made of non-reportable incidents which may be of significant public interest and concern, e.g., transportation accidents.

Investigations should include in-depth reviews of circumstances and should be completed on a high priority basis. When appropriate, investigations should include reenactment and time-study measurements (normally within a few days). Investigation (or inspection) results should be documented and enforcement action taken when appropriate.

State licensees and the NRC should be notified of pertinent information about any incident which could be relevant to other licensed operations (e.g., equipment failure, improper operating procedures).

Information on incidents involving failure of equipment should be provided to the agency responsible for evaluation of the device for an assessment of possible generic design deficiency.

The RCP should have access to medical consultants when needed to diagnose or treat radiation injuries. The RCP should use other technical consultants for special problems when needed.

Assessment

To assess the effectiveness of the State's incident response, the reviewer examined in depth the casework of ten events, reviewed the incident investigation procedure, evaluated the reporting and tracking procedures and forms, and interviewed the investigators.

The State's procedures for response to incidents and alleged incidents work well. Emergency calls are routed to the emergency response duty officer who prepares an incident report form which is turned over to the appropriate section. Onsite investigations are conducted in all cases where overexposure is possible. The response time is determined after an immediate telephone call to the site to assess the potential risk for exposure and the security of the radioactive material. Medical consultants are available for diagnosing and treating radiation injuries, and the Division has the capability to use other technical consultants when necessary. Individuals making allegations are protected by statute from retaliation. However, in letter dated May 31, 1995 from Terry Frazee, Supervisor, Radioactive Materials Section, to the Secretary of the NRC, a concern regarding the State of Washington's handling of allegations was raised. In the May 1995 letter, it was indicated in the State's comments on NRC's Management Directive 8.8, "Management of Allegations," that the name and contact number of an allogger should be transmitted to the State if the allegation is originally received by the NRC and if this information is not provided to the State, then the information provided by the NRC will be considered "hearsay" and an investigation will not be conducted by the State. Moreover, the letter states, "If NRC cannot communicate the required contact information to the Agreement States, NRC should inform the allogger that no action will be taken with respect to the Agreement State licensee unless the allogger is willing to speak to the Agreement State personnel." We find that the State's policy in this area could potentially compromise public health and safety if a safety significant allegation is received which warrants investigation and the allogger provides sufficient information to conduct the investigation but wishes not to be identified. NRC notes, however, that the State of Washington RCP has not failed to conduct an investigation of an anonymous allegation during this review period.

In addition, problems were found in the reporting and tracking functions. Only one incident report form is used for all types of emergencies including those at reactor facilities, and it is not directly applicable to incidents, misadministrations or allegations involving radioactive materials.

Radioactive materials program: According to the incident log, 22 events, which included radioactive materials incidents, misadministrations, and allegations, were reported in 1992, 22 in 1993, and 20 in 1994. The 1994 summary of incidents was submitted to the NRC on February 27, 1995. According to the incident file, 11 incidents have occurred thus far in 1995.

Based on review of nine files relating to radioactive materials incidents, it was noted that all investigations were thorough and that all involved parties were advised of the results. The citations issued to the licensees addressed the root cause of the accident. However, the tracking process needs improvement. Incidents are not recorded in the incident log until the year-end summary for NRC is prepared. Incident reports are placed in the incident file, with duplicate records placed in the compliance file, and there is no system to easily track open incidents. This makes it difficult for the staff to follow the paper trail and to keep abreast of the need for further action. In one case, a spill of contaminated water at a nuclear laundry was handled properly by the State, but the event report was not placed in the incident file. In another case, when questioned by the reviewer, the inspector verified that he responded to a possible overexposure on the same day it was reported, but the initial investigation was not documented.

Low-level radioactive waste program: No incidents involving low-level radioactive waste activities were reported during the review period.

Uranium mills program: Two incidents during uranium mill operations were reported during the review period, one of which was reviewed in depth. A serious spill occurred at the Dawn Mining Company (DMC) uranium mill when a waste effluent tank overflowed. Although the State took the proper action in responding to the incident and in forcing the licensee to take corrective action in clean-up and prevention of similar accidents, again the documentation was incomplete, and not all information regarding the incident was available in the compliance file.

Recommendation

- (1) 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.
- (2) We recommend that the State make the following changes in documenting and tracking incidents:
 - a) supplement the incident report form used by the emergency response section with forms specific to events and allegations involving radioactive materials, including misadministrations;
 - b) develop procedures specific to investigating and reporting allegations and misadministrations; and
 - c) develop a computer system for tracking and closing incident reports and investigations, including prompting management for reports requested by the NRC.

3. Enforcement Procedures (Category I)

NRC Guidelines

Enforcement procedures should be sufficient to provide a substantial deterrent to licensee noncompliance with regulatory requirements. Provisions for the levying of monetary penalties are recommended.

Enforcement letters should be issued within 30 days following inspections and should employ appropriate regulatory language clearly specifying all items of noncompliance and health and safety matters identified during the inspection

and referencing the appropriate regulation or license condition being violated.

Enforcement letters should specify the time period for the licensee to respond, indicating corrective actions and actions taken to prevent recurrence (normally 20-30 days). The inspector and compliance supervisor should review licensee responses.

Licensee responses to enforcement letters should be promptly acknowledged as to adequacy and resolution of previously unresolved items.

Written procedures should exist for handling escalated enforcement cases of varying degrees.

Impounding of material should be in accordance with State administrative procedures.

Opportunity for hearings should be provided to assure impartial administration of the radiation control program.

Assessment

The State's enforcement procedures are prescribed in Chapter 70.98 of the Revised Code of Washington (RCW). The statutes do not include civil penalties; however the State's enforcement procedures provide other methods of what the program considers to be escalated enforcement which have been effective in achieving licensee compliance, such as increased inspection frequency; a provision that stipulates the licensee may be required to pay for second follow-up inspections; requirements for licensees to hire specialized training or consultants; impoundment; and cease and desist orders. The compliance file reviews indicated that enforcement and acknowledgement letters have been issued promptly. The letters used appropriate regulatory language and were clearly written, referencing the appropriate regulation or license condition. The items of concern are clearly differentiated from the items of non-compliance. Licensees are required to respond to enforcement letters within 30 days. The inspector reviews the licensee responses and writes the acknowledgement letter unless escalated enforcement is involved, in which case, the section head also reviews the response. In the cases sampled, the licensees had responded within the specified time period.

Radioactive materials program: New procedures have been developed to handle different levels of severity in enforcement cases. In at least two cases, the State's enforcement procedures were particularly effective: 1) On the basis of an allegation, a team of inspectors, armed with a search warrant and temporary cease work order, arrived at the licensee's facility unannounced and proceeded to do a through investigation of the licensee's entire program. They found that the licensee was mixing compact and non-compact waste and shipping the waste for disposal as compact waste, which violates the Northwest Compact provisions. As a result of the investigation, the license was revised and strengthened and \$270,000.00 in back surcharges were collected. In addition the licensee must pay for State inspections of all incoming and outgoing shipments. 2) In response to another allegation the State conducted an unannounced team investigation of a manufacturer of devices. The licensee was cited for 10 violations including overexposure to extremities, not following approved procedures, inadequate training, and inadequate dosimetry. The licensee was required to provide adequate training and correct all items of noncompliance and pay for monthly inspections until further notice.

However, there were also two cases in which the escalated enforcement tools available to the program were not used effectively. In one case there were

multiple repeated items of non-compliance, the inspector scheduled a management meeting in Olympia, Washington with the licensee. The licensee appeared as requested; however, no managers from the State attended the meeting. In another enforcement action, a second follow-up inspection was conducted, but the licensee was not charged for the follow-up inspection nor was there a written explanation on record for deviating from this written policy.

Low-level radioactive waste program: Enforcement procedures are in place for disposal site users in violation of the regulations governing use of the disposal site. Depending on the severity of the violation, the user may receive a warning call, a warning letter, or a suspension. Users who have received a warning letter must describe to the department, in writing, the actions they plan to take to bring their activities into full compliance. Users who have been suspended must describe to the department, in writing, the actions they plan to take to bring their activities into full compliance; this must be in the form of a quality assurance program, and the user must also allow and pay for a point-of-origin inspection by the department. According to the records, site users received 21 suspensions, 30 warning letters, and 133 warning calls during the past 24 months. The site operator received three citations during the review period.

Uranium mills program: In response to an incident at the Dawn Mining Company (DMC), the State's escalated enforcement actions included a formal order to construct berms, to install alarms, and to rewrite procedures to prevent future occurrences. In addition, the State administratively modified the license conditions to include the requirements of the order.

Recommendation

We recommend that 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.

4. Inspection Procedures (Category II)

NRC Guidelines

Inspection guides consistent with current NRC guidance should be used by inspectors to assure uniform and complete inspection practices and provide technical guidance in the inspection of licensed programs. NRC Guides may be used if properly supplemented by policy memoranda, agency interpretations, etc.

Written inspection policies should be issued to establish a policy for conducting unannounced inspections, obtaining corrective action, following up and closing out previous violations, interviewing workers and observing operations, assuring exit interviews with management, and issuing appropriate notification of violations of health and safety problems. Procedures should be established for maintaining licensees' compliance histories.

Oral briefing of supervisors or the senior inspector should be performed upon return from non-routine inspections.

For States with separate licensing and inspection staffs, procedures should be established for feedback of information to license reviewers.

Assessment

Radioactive materials program: Because the section's inspection procedures were undergoing revision at the time of the review and because the State's performance was satisfactory in this indicator during the previous review, only the inspection forms were reviewed in depth during this review. The following conclusions are based on past reviews, staff interviews, examination of the files, and observation by the NRC reviewer. Unless the circumstances are very unusual, the State does not announce inspections in advance. All licensing and compliance documents are filed in the same folder, including past inspections, and the compliance history is also in the database. Any non-routine inspection is discussed with the section head after the inspector returns to the office. The health physicists in the materials section perform both licensing and compliance duties, and are fully cognizant of the licensee's compliance history while working on licensing issues.

In reviewing the files, it was found that the form used to inspect medical licenses lacks elements necessary for inspecting the practice of radiopharmaceutical therapy, and also that there is no form available for inspecting high-dose afterloaders. Also, a new, one-page inspection form is being used by the lead inspector. This new short form, which is used for industrial radiography, broad scope and follow-up inspections does not meet the criteria in the guidelines above. Because of the one-page length, it is difficult to read, does not report all essential elements of the inspection, and leaves no room for comments or evaluations. It was concluded from discussions with management and other inspectors that the effectiveness of the form was not evaluated before it was put into use. Although apparently only authorized for use by one inspector, its use during a team inspection of a broad scope licensee resulted in such poor documentation that an inspector's field notes were included in the inspection report.

Low-level radioactive waste program: The State uses NRC inspection procedures supplemented with their own inspection forms and policy memos. In reviewing the files of two of the three annual inspections conducted during this review period, it was noted that the low-level waste inspection report form does not document the inspector's review of the licensee's incident file. Also, the form has no place to document management review of the inspection report.

Uranium mills program: The State has developed a checklist which incorporates procedures found in the applicable NUREGs and NRC Branch Technical Positions as the guide for inspecting uranium mill operations. However, the checklist needs to be revised. Deficiencies relating directly to omissions in the inspection checklist were found in each of the five inspection reports reviewed. The checklist does not include review of licensee's internal audit program, review of licensee's ALARA program, or management review. Also, State policy requires a confirmatory letter to the licensee following a clear inspection; however, such confirmatory correspondence is not incorporated in the check list, and in one case it was not done.

Recommendation

- a) We recommend that the radioactive materials section modify the medical inspection form to add a section applicable to radiopharmaceutical therapy.
- b) We recommend that a procedure and a form be developed for inspecting high-dose afterloaders.
- c) 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 a 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.

- d) 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.
- e) 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.

SUMMARY OF DISCUSSIONS WITH STATE REPRESENTATIVES

The results of the review were discussed with Eric Slagle, Assistant Secretary, Environmental Health Programs, on June 22, 1995, during a video teleconference. Mr. Strong, Mr. Frazee, and Mr. Robertson also participated in the discussion.

The State was thanked for their cooperation and congratulated on maintaining compatible regulations and on the overall quality of the radiation control program. All parties agreed that a good working relationship between the State of Washington and the NRC has always existed and continues to be important. The program areas needing improvement were identified with our recommendations. The status of the NRC's pilot Integrated Materials Performance Evaluation Program (IMPEP) was also discussed.

The recent allegations made to the NRC and EPA regarding certain State activities were discussed. Mr. Strong and Mr. Frazee pointed out that in one case the allegation was anonymous, and in the other, the NRC withheld the name of the alleged, making it very difficult for program management to investigate the accusations. Mr. Hornor explained that the NRC does withhold the identity of the alleged if requested to do so. He also explained that the NRC looks into all allegations, even those made anonymously, in order to provide the best possible protection for health and safety. He pointed out that, regardless of their concerns, the State made extensive investigations into the allegations and thanked them for their cooperation.

Mr. Slagle made three comments: First, he explained that changes in the regulatory climate in the State may make it more difficult in the future to adopt compatible regulations. In the past, the legislature has been very responsive to requests for changes in State regulations to conform to those of the Federal regulations. It appears that this may not be the case in the future. Second, he suggested that representatives from Agreement States be included in the IMPEP reviews. He pointed out that this approach had worked well in the drinking water program. Finally, he expressed strong concern over the NRC's proposed charges to the Agreement States for training. He and the other managers expressed their opinion that the NRC's support was essential if the regulatory program is to remain effective. The idea of exchanging services such as State inspection of NRC materials licenses within the State for training costs was felt to be a workable solution. Mr. Hornor explained that the Office of State Programs and other NRC offices are aware of the problems. NRC is reviewing the issue of funding for Agreement State training as part of NRC's strategic assessment and rebaselining initiative.

In conclusion, Mr. Slagle thanked Mr. Hornor for his efforts, and stated that he feels the NRC reviews are an important resource for the State to use in improving the quality of their radiation control program.

SUMMARY OF ASSESSMENT OF INDICATORS FULLY SATISFIED
BY THE WASHINGTON RADIATION CONTROL PROGRAM
JULY 18, 1992 TO JUNE 23, 1995

The assessments below are based upon the evaluation of the State's written response to the questionnaire, comparison with previous review information, discussions with the program managers and staff members, review team observations, review of the State's policies and procedures, and licensing and inspection casework file reviews. The State fully satisfies the following indicators.

1. Legal Authority (Category I)

NRC Guidelines

Clear statutory authority should exist, designating a State radiation control agency and providing for promulgation of regulations, licensing, inspection and enforcement.

States regulating uranium or thorium recovery and associated wastes pursuant to the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) must have statutes enacted to establish clear authority for the State to carry out the requirements of UMTRCA.

States regulating the disposal of low-level radioactive waste in permanent disposal facilities must have statutes that provide authority for the issuance of regulations for low-level waste management and disposal. The statutes should also provide regulatory program authority and provide for a system of checks to demonstrate that conflicts of interest between the regulatory function and the developmental and operational functions shall not occur.¹

Assessment

Based on review of the State's statutes, the authority under which the Washington Division of Radiation Protection administers the State's radiation control program is provided in the following statutes in the Revised Code of Washington (RCW).

RCW 70.98 Nuclear Energy and Radiation (1961)
RCW 70.121 Mill Tailings - Licensing and Perpetual Care (1979)
RCW 43.70 Department of Health (1989) [license fees]
RCW 42.17 Disclosure - Campaign Finances - Lobbying - Records (1973)
RCW 34.05 Administrative Procedures Act (1981)

The statutory authority for both radioactive materials and low-level radioactive waste are combined in RCW 70.98.

US Ecology, Inc. is the operator of the commercial low-level radioactive waste disposal site. To avoid conflicts of interest, two State agencies (Department of Health and Department of Ecology) oversee the site operator. The Department of Ecology is the landlord and subleases 100 acres to US Ecology for the waste disposal site, controls the site closure account and the Perpetual Care and Maintenance fund, and also issues site use permits to waste generators for disposal. The Department of Health has regulatory authority

¹ The level of separation (e.g., separate agencies) should be determined by each State individually.

for issuing the site operator's radioactive materials license and for inspection and enforcement.

There were no changes in the State's legal authority to control the use of radioactive materials during the review period.

2. Location of Radiation Control Program Within State Organization
(Category II)

NRC Guidelines

The RCP should be located in a State organization parallel with comparable health and safety programs. The Program Director should have access to appropriate levels of State management.

Where regulatory responsibilities are divided between State agencies, clear understandings should exist as to division of responsibilities and requirements for coordination.

Assessment

Based upon review of organizational charts and discussions with staff, the Division of Radiation Protection is one of five health programs within Environmental Health Programs. The Secretary for the Department of Health reports directly to the Governor. According to the Program Director, he has appropriate access to higher levels of State management. As indicated above, the Washington Department of Ecology shares responsibility with the Department of Health in regulating the low-level radioactive waste facility. The separate responsibilities are clearly defined in the statutes. There were no changes in this indicator during the review period.

3. Internal Organization of Radiation Control Program (Category II)

NRC Guidelines

The RCP should be organized with the view toward achieving an acceptable degree of staff efficiency, place appropriate emphasis on major program functions, and provide specific lines of supervision from program management for the execution of program policy.

Where regional offices or other government agencies are utilized, the lines of communication and administrative control between these offices and the central office (Program Director) should be clearly drawn to provide uniformity in licensing and inspection policies, procedures and supervision.

Assessment

The radiation control program is headed by Terry R. Strong, Director, Division of Radiation Protection. The radioactive materials section, headed by Terry Frazee, has the responsibility for the radioactive materials program, and the waste management section, headed by Gary Robertson, is responsible for the low-level radioactive waste and uranium mills programs. The only regional office is located at the low-level radioactive waste disposal facility located at Hanford, WA. Although the programs and staff of the two sections are independent, the two section heads provide backup for each other, and when circumstances warrant, there is some cross-over assignment of staff.

There were no changes in the internal organization structure during this review period.

4. Legal Assistance (Category II)

NRC Guidelines

Legal staff should be assigned to assist the RCP or procedures should exist to obtain legal assistance expeditiously. Legal staff should be knowledgeable regarding the RCP program, statutes, and regulations.

Assessment

The Attorney General's office has assigned two attorneys to assist the Department of Health. The reviewer met with one of the attorneys during the review meeting and found her to be knowledgeable regarding the issues facing the radiation control program, including issues and problems unique to the closure of uranium mills. In the questionnaire, the State provided a summary, e.g., regulation review, of the circumstances in which legal assistance was used. The staff interviews and responses to the questionnaire indicate that a good working relationship exists between the legal office and the program staff.

5. Technical Advisory Committees (Category II)

NRC Guidelines

Technical committees, federal agencies, and other resource organizations should be used to extend staff capabilities for unique or technically complex problems.

A State Medical Advisory Committee should be used to provide broad guidance on the uses of radioactive drugs in or on humans. The Committee should represent a wide spectrum of medical disciplines. The Committee should advise the RCP on policy matters and regulations related to use of radioisotopes in or on humans.

Procedures should be developed to avoid conflict of interest, even though Committees are advisory. This does not mean that representatives of the regulated community should not serve on advisory committees or not be used as consultants.

Assessment

According to responses supplied by the State, the official Radiation Advisory Committee has disbanded, and alternative mechanisms are being used to obtain technical advice, thus avoiding the long and cumbersome process involved in reappointing an official advisory committee to the Department. When a technical advisory committee is needed the Department now issues an announcement to all licensees, providing them the opportunity to participate in an ad hoc advisory committee. All interested parties are provided detailed information and allowed to participate to the extent they are able. To avoid conflicts of interest, a person with a direct financial interest in the subject being considered by the committee would not be allowed to vote.

There was no need to convene an ad hoc medical advisory committee during this review period; however, program management explained that in the event broad guidance is needed on medical uses, they intend to form a committee comprised of a wide spectrum of medical disciplines. If necessary to provide balance on the committee, they plan to solicit specific individuals or practitioners of selected specialties.

Program management explained to the reviewer that the use of ad hoc committees has proven to be an effective and efficient mechanism to obtain technical advice, and they feel it is also less costly in time and money to establish and maintain an ad hoc committee for a brief period than the traditional advisory committee.

According to the State, a committee was used to plan the implementation of the new 10 CFR Part 20 requirements. In their answers to the questionnaire, the State summarized the actions of the various ad hoc committees and provided names of the committee members. Advisory committees are being used extensively in uranium mill closure activities.

6. Contractual Assistance (Category II)

NRC Guidelines

Because of the diversity and complexity of low-level radioactive waste disposal licensing and regulation, States regulating the disposal of low-level radioactive waste in permanent disposal facilities should have procedures and mechanisms in place for acquisition of technical and vendor services necessary to support these functions that are not otherwise available within the RCP.

The RCP should avoid the selection of contractors which have been selected to provide services associated with the LLW facility development or operations.

Assessment

The waste management section uses contractors for certain low-level waste and uranium mill activities.

According to information supplied by the State, to avoid any conflict of interest with the use of consultants and contractors, the Department has standard conditions in all contracts which prohibit conflicts of interest. In addition, RCW Chapter 42.52, the State Ethics Law, prohibits such things as any financial interest in a consulting company by State employees; confidentiality; use of State resources; etc. All contracts are developed and reviewed by Department Contract Officers as a further way to avoid conflicts of interest.

Contractors are chosen by a review panel which scores each applicant not only on the amount of the bid, but on items such as experience, longevity, small business or minority business status, record of completing contracts on schedule, etc.

7. Quality of Emergency Planning (Category I)

NRC Guidelines

The State RCP should have a written plan in response to incidents at licensee facilities which takes into account such incidents as spills, overexposures, transportation accidents, fire or explosion, theft, etc.

The plan should define the responsibilities and actions to be taken by State agencies. The plan should be specific as to persons responsible for initiating response actions, conducting operations, and cleanup.

Emergency communication procedures should be adequately established with appropriate local, county, and State agencies. Plans should be distributed to appropriate persons and agencies. NRC should be provided the opportunity to comment on the plan while in draft form.

The plan should be reviewed annually by program staff for adequacy and to determine that content is current. Periodic drills should be performed to test the plan.

Assessment

In making this assessment, the reviewer reviewed the State's emergency plan, examined records of incidents and interviewed program management and emergency response staff.

The Department of Health issues the statewide emergency plan, "Response Procedures for Radiation Emergencies," last updated May 1994. This plan contains procedures for dealing with accidents at fixed nuclear facilities, at facilities of radioactive materials licensees, at the low-level radioactive waste site, at uranium mills, and at transportation events. The nuclear safety section of the Division of Radiation Protection distributes and annually updates controlled copies to the appropriate responders or affected agencies. The communications list was last updated in May 1995 and a copy was furnished to the Regional State Agreement Officer (RSAO). A Federal Emergency Management Agency (FEMA) table top ingestion pathway exercise was held in May 1995. Procedures changed in the latest update related primarily to the closing of the Trojan reactor and was prepared with the assistance of FEMA. No significant changes were made in plans affecting the radioactive materials or waste management sections during this review period.

Radioactive materials section: The plan contains a detailed radioactive materials section which lists each isotope with the potential hazards and instructions for handling. First responders to materials incidents are the health physicists from the radioactive materials section. If necessary, the staff of the nuclear safety section are trained to act as second responders.

Low-Level Radioactive Waste Program: For emergencies at the waste disposal site, the emergency response duty officer notifies the Director of the Division of Radiation Protection, the head of the waste management section (or designee), the lead inspector at the site (or designee), and the US Ecology emergency coordinator (or designee). US Ecology tests its own contingency plan three times a year. At those times, the State's emergency response notification is also tested.

Uranium Mills Program: For emergencies at the uranium mills, the emergency response duty officer contacts the Director of the Division of Radiation Protection, the head of the waste management section (or designee), and a uranium mills staff member. The Department does not feel it is necessary to test the emergency plan at Sherwood because the mill is in a closure phase. All licensable radioactive material at the site has now been placed in the impoundment and all contaminated equipment and materials have been removed or buried. The plan will be tested at DMC before receipt of the first shipment of imported 11.e(2) byproduct material.

The plan clearly defines the responsibilities of each agency and is specific as to the action required of each responder.

8. Budget (Category II)

NRC Guidelines

Operating funds should be sufficient to support program needs, such as staff travel necessary to the conduct of an effective compliance program, including routine inspections; follow-up or special inspections, (including pre-licensing visits) and responses to incidents and other emergencies;

instrumentation and other equipment to support the RCP; administrative costs in operating the program including rental charges, printing costs, laboratory services, computer and/or word processing support; preparation of correspondence; office equipment; hearing costs, etc., as appropriate. States regulating the disposal of low-level radioactive waste facilities should have adequate budgetary resources to allow for changes in funding needs during the LLW facility life cycle. After appropriations, the sources of program funding should be stable and protected from competition from or invasion by other State programs.

Principal operating funds should be from sources which provide continuity and reliability, i.e., general tax, license fees, etc. Supplemental funds may be obtained through contracts, cash grants, etc.

Assessment

Radioactive materials program: The program is supported 100% by fees, and funds collected from fees may only be spent on the radioactive materials program. During discussions, program management explained that the restrictions on use of the fees have not allowed them to expand services or investigate health and safety issues in other areas outside of the radioactive materials program. The funding, however, is stable and adequate to meet the present program needs.

Low-level radioactive waste program: During the review, the State was asked to describe the mechanism for funding the regulation of the low-level radioactive waste disposal site over the life cycle of the facility. The State provided the following information in reply:

The Department of Health (Department) has statutory authority and collects a fee to cover the actual costs of the regulatory program of the site. The fee is currently based on a per-cubic-foot of waste fee system. The Department of Ecology is currently collecting \$1.75/cubic foot for perpetual care and maintenance and has authority to reinstate a fee for the closure account, if necessary. The closure and perpetual care and maintenance accounts for the disposal site are adequate (\$21 million in each), and are protected from invasion.

Based on the information provided, the budget for the Low-level radioactive waste program is adequate.

Uranium mills program: The State provided the following information regarding funding the uranium mill program and site closures:

The Department has statutory authority to collect a fee to cover the actual costs of the regulatory program of each of the uranium mills. The mill operators are billed quarterly for costs incurred during the previous quarter. The Department also has statutory authority to collect fees for closure and perpetual care and maintenance.

The Department recently approved Dawn Mining Company's (DMC) closure plan and established a cost estimate of \$20 million (this includes a 25% contingency fund). The State currently has a \$1 million letter of credit from DMC. The State has approved DMC's plan to generate funds for closure by disposing of 11.e(2) byproduct material from out-of-state; however, prior to initial receipt of any 11.e(2) byproduct material at the site, DMC must establish a trust fund that will have sufficient assets to

accomplish decommissioning, reclamation, and long-term surveillance and control of the millsite. Additionally, DMC must conform to the requirements set forth in WAC 246-252-030, Criteria 9 and 10, which require a fully-funded perpetual care and maintenance fund.

The Department is currently working on an approved closure plan for Western Nuclear, Inc. (WNI), and preliminary estimates are \$8 million; so far, the fund contains \$6 million. However, WNI is performing phased decommissioning (for example, demolition of mill buildings and placement in tailings impoundment is one phase, which was estimated at \$2.2 million in 1990) without accessing the \$6 million closure fund. Uranium mill statutes protect these funds from invasion. The existing bond of \$6 million is based on estimates from the 1978 Environmental Impact Statement and closure plan. The Department is currently reviewing the revised closure plan. When the plan is approved, the Department will require WNI to submit a closure cost estimate. The Department will verify the cost, add a contingency, and require WNI to post the bond. The Department will subtract the costs of mill decommissioning and any other work completed. Conversations between the Department and the company indicate that the bond will be in the neighborhood of \$8 million; they have spent to date approximately \$2.2 million.

Based on this information, the reviewer concluded that the State's method for surety amount determination is appropriate. The State should monitor Dawn Mining Company's progress in the timely funding of the trust fund.

9. Laboratory Support (Category II)

NRC Guidelines

The RCP should have laboratory support capability in house, or readily available through established procedures, to conduct bioassays, analyze environmental samples, analyze samples collected by inspectors, etc., on a priority established by the RCP.

In addition, States regulating the disposal of low-level radioactive waste facilities in permanent disposal facilities should have access to laboratory support for radiological and non-radiological analyses associated with the licensing and regulation of low-level waste disposal, including soils testing; testing of environmental media; testing of engineering properties of waste packages and waste forms; and testing of other engineering materials used in the disposal of low-level radioactive waste. Access to laboratory support should be available on an "as needed" basis for nonradiological analyses to confirm licensees' and applicants' programs and conditions for nonradiological testing should be prescribed in plans or procedures.

Assessment:

This assessment is based on information provided in the questionnaire, discussions with the heads of the materials and waste management sections in Olympia and on personal observation during a visit to the laboratory facilities on June 12, 1995. Laboratory support is provided by the Public Health Laboratory in Seattle, Washington, a separate division of the Department of Health. During this visit, the laboratory staff was interviewed, and the laboratory's procedures manual was reviewed. Particular attention was given to the interaction between the RCP and the laboratory, on the method of collecting samples, and on the chain of custody for the samples. All were found to be satisfactory.

A written contract exists between the RCP and the laboratory, exchanging funds for analyses performed. The laboratory can handle samples in any physical form, including wipes, filters, liquids, solids, and gases in any form except non-radon inert gases. Low-energy beta emitters are analyzed by liquid scintillation counting, using a Packard 250; alpha emitter wipes are analyzed by gas proportional alpha-beta counting. Non-wipe samples are analyzed by alpha spectroscopy. Gamma emitters are analyzed with a 30% germanium counter, with count time set to produce a detection level of 100 dpm, or as required by the program. They also have the capability of performing bioassays.

The laboratory has capabilities for testing soil, air, vegetation, and water. The State laboratory has conducted specialty studies on adsorbents, but does not routinely perform engineering testing of materials. They can perform other specific engineering tests upon the Department's request. In the event the laboratory is unable to perform a test because they are unfamiliar with the process, or if they are backlogged with other requests, they may contract the work to another approved laboratory.

The laboratory participates in the Environmental Protection Agency (EPA) Drinking Water Program, the Department of Energy (DOE) environmental monitoring laboratory program, the International Intercomparison Study for Thermoluminescent Dosimeters (TLDs) and the Regional Quality Assurance Task Force Intercomparison Program, the DOE Environmental Testing and Certification Lab Program for Radiological Constituents, the EPA Certification Program for Dangerous Waste, and has applied for the Quality Control Mixed Waste Program sponsored by DOE.

Emergency samples may be turned around in less than 24 hours and from discussions with the staff, it appears the lab response time for routine work is satisfactory.

10. Administrative Procedures (Category II)

NRC Guidelines

The RCP should establish written internal policy and administrative procedures to assure that program functions are carried out as required and to provide a high degree of uniformity and continuity in regulatory practices. These procedures should address internal processing of license applications, inspection policies, decommissioning and license termination, fee collection, contacts with communication media, conflict of interest policies for employees, exchange-of-information and other functions required of the program. Administrative procedures are in addition to the technical procedures utilized in licensing, and inspection and enforcement.

Assessment

The State's general administrative procedures are established by statute in RCW 34.05 Administrative Procedures Act. Procedures specific to each program within the RCP are as follows:

Radioactive materials program: The section head was in the process of developing an all new procedures manual at the time of the review. The reviewer examined the completed portions of these new procedures and made minor suggestions for improvement. If completed according to plan, the manual will be very comprehensive and will provide excellent guidance for the staff. In addition to the technical procedures which are discussed in the "Licensing Procedures" indicator and the "Inspection Procedures" indicator sections of this report, the manual covers administrative procedures and policies such as defining the program's mission, staff duties, jurisdiction, organization,

delegation, fees, priorities, handling of exempt and generally licensed devices, documenting telephone calls, examples of various types of correspondence, etc. The new termination procedure and the complete license application package were also reviewed and found to be satisfactory.

Low-level radioactive waste and Uranium mill Programs: New procedures were written to reflect minor changes in low-level waste policies; there were no changes during the review period in the uranium mill procedures. For the most part, the low-level waste program and the uranium mill programs both use the guidance furnished by the NRC in NUREGS and Reg Guides.

11. Management (Category II)

NRC Guidelines

Program management should receive periodic reports from the staff on the status of regulatory actions (backlogs, problem cases, inquiries, regulation revisions).

RCP management should periodically assess workload trends, resources and changes in legislative and regulatory responsibilities to forecast needs for increased staff, equipment, services and funding.

Program management should perform periodic reviews of selected license cases handled by each reviewer and document the results. Complex licenses (major manufacturers, low-level radioactive waste disposal facilities, large scope-Type A Broad, potential for significant releases to the environment) should receive second party review (supervisory, committee, consultant). Supervisory review of inspections, reports and enforcement actions should also be performed.

For the implementation of very complex licensing actions, such as initial license review, license renewals and licensing actions associated with a low-level radioactive waste disposal facility, there should be an overall Project Manager responsible for the coordination and compilation of the diverse technical reviews necessary for the completion of the licensing action. The Project Manager should have training or experience in one or more of the main disciplines related to the technical reviews which the Project Manager will be coordinating such as health physics, engineering, earth science or environmental science.

When regional offices or other government agencies are utilized, program management should conduct periodic audits of these offices.

Assessment

This assessment is based on responses provided by the State in the questionnaire, by examining 14 of the computer-generated status reports, by reviewing the minutes of 27 staff meetings, by reviewing the license and compliance files for documentation of management reviews, and by staff interviews. The reviewer was also invited to attend a radioactive materials staff meeting during the review.

Periodic meetings, averaging once a month, are held between the Division Director and the section heads and between the section heads and their staffs. The Director also conducts semi-annual meetings attended by the complete RCP staff. In all three programs, impromptu meetings between the supervisors and staff are held to discuss special situations such as incidents, misadministrations, allegations, enforcement problems, media interest, etc. Periodic computer-generated reports on licensing and

compliance actions are also reviewed by the director and section heads. These meetings and reports allow management to keep abreast of the current status of the program and to forecast future needs.

Radioactive materials program: All licensing actions are reviewed and signed off by a second party. The section head reviews all complex licensing actions and 10 percent of the routine actions, using a separate form, "License QA Checklist." It was verified that all reviewers were included in the management review. All inspection reports and compliance actions are reviewed by the lead inspector. Again, ten percent of the cases are also reviewed by the radioactive materials section head.

Uranium mill program: For routine licensing issues, the section head reviews all licensing actions and has the only signature authority. For major issues at DMC, the signature authority is escalated to the Division Director or higher.

Low-level radioactive waste program: The section head reviews all licensing actions and has the only signature authority. Although it was not well documented, all compliance actions are also reviewed by the section head, and all enforcement letters are signed by the section head. The project manager for regulation of the disposal site has a degree in radiological science, and six years' experience as a project manager. According to State policy, the minimum qualifications required of the program manager for the low-level waste program are: An M.S. degree in radiological health, radiation safety, health physics or closely related field and three years' professional experience in an official radiation control program, including one year of experience equivalent to a journeyman health physicist; or a Bachelor's degree in a physical science, engineering or biological science and five years' professional experience in an official radiation control program, including one year's experience equivalent to a journeyman health physicist.

Periodic audits are conducted of the regional office at the site. Records of the audit results were examined during the review and were found to be adequate to document results of the audits conducted.

12. Office Equipment and Support Services (Category II)

NRC Guidelines

The RCP should have adequate secretarial and clerical support. Automatic typing and Automatic Data Processing and retrieval capability should be available to larger (greater than 300-400 licenses) programs. Similar services should be available to regional offices, if utilized.

States should have a license document management system that is capable of organizing the volume and diversity of materials associated with licensing and inspection of radioactive materials.

Professional licensing, inspection, and enforcement staff should not be used for fee collection and other clerical duties.

Assessment

According to information furnished by the staff, the clerical support staff furnished to the Division is adequate to meet normal needs and is supplemented by temporary help during busy periods.

The computer capabilities are excellent. All staff are provided personal computers capable of operating the "Windows" program. Other software is

readily available including WordPerfect, Microsoft Word, Microsoft ACCESS, Microsoft Excel, etc. All staff are connected via a local area network with ability to send electronic mail on the State's wide area network and Internet. Materials licensee data are stored in ACCESS and is available to all Material Section staff. The program has the capability to track open and completed licensing actions, including soon-to-expire licenses; licensee's compliance history; due and overdue inspections; and closed incident and enforcement cases. The staff demonstrated the effectiveness of the computer system for the reviewer by producing several reports.

To determine the effectiveness of the document tracking system, the reviewer randomly chose a variety of recent NRC documents including All Agreement State Letters, Information Notices, Information Bulletins, NUREGS, and SS&D registry sheets, and tracked their distribution within the RCP and to affected licensees. The documents were appropriately distributed which indicated a well-run document control system.

Fee collection, distribution, and handling is performed by the Revenue Accounting Office in the Department of Health, and does not impact the RCP staff.

13. Public Information (Category II)

NRC Guidelines

Inspection and licensing files should be available to the public consistent with State administrative procedures. It is desirable, however, that there be provisions for protecting from public disclosure proprietary information and information of a clearly personal nature.

Opportunity for public hearings should be provided in accordance with UMTRCA and applicable State administrative procedure laws during the process of major licensing actions associated with UMTRCA and low-level radioactive waste in permanent disposal facilities.

Assessment

The State's public information policy is defined in the Department of Health Policy/Procedure Number 17.003 "Public Disclosure." According to this document, information that may be withheld includes: names of allegers; valuable formulas, designs, drawings and research data (within 5 years of request); and preliminary drafts, notes, recommendations and intra-agency memos in which opinions are expressed or policies formulated or recommended (unless publicly cited by the agency in connection with any agency action).

The Department of Health has a public information officer, and according to program management, all press releases must be approved by Department and Division management prior to release.

In past reviews it was found the State provided opportunity for public hearings in accordance with UMTRCA, and no changes were made in the policy during the review period. With respect to the proposed Dawn Closure plan the State held two public meetings in Ford, WA in early 1994 to discuss the plan and take public comments. Two additional public hearings were held on the Supplemental Environmental Impact Statement (EIS). The Department of Health also continued to hold the community based Technical Advisory Committee (TAC) meetings with at least two meetings held each year from 1992 through 1995. All members of the local community were invited to attend these meetings along with the following specifically invited organizations: Spokane Sierra Club; Stevens County Commissioner; Dept. of Geology and Dept. of Biology, Eastern

Washington University; EPA, Region 10; Newmont Gold/DMC; Bureau of Land Management; U.S. NRC; Rancho Apocas De Oro; NIMBY; WA State Dept. of Ecology; Bureau of Indian Affairs; Spokane Tribe; and specific members from local towns and communities. In addition, Dawn Mining Company and the TAC formed a Local Citizens Monitoring Committee (LCMC). The State has no representative on the LCMC and no records of the meetings. The LCMC monitors Dawn's activities and holds open meetings to discuss Dawn's activities. The formation of the LCMC and their activities are strictly between Dawn Mining and the local community.

14. Qualifications of Technical Staff (Category II)

NRC Guidelines

Professional staff should have bachelor's degree or equivalent training in the physical and/or life sciences. Additional training and experience in radiation protection for senior personnel including the director of the radiation protection program should be commensurate with the type of licenses issued and inspected by the State. For States regulating uranium mills and mill tailings, staff training and experience should also include hydrology, geology, and structural engineering.² For programs which regulate the disposal of low-level radioactive waste in permanent facilities, staff training and experience should include civil or mechanical engineering, geology, hydrology, and other earth science, and environmental science. In both types of materials, staff training and experience guidelines apply to available contractors and resources in State agencies other than the RCP.

Written job descriptions should be prepared so that professional qualifications needed to fill vacancies can be readily identified.

Assessment

The State furnished the reviewer a complete list of all professional personnel, the degree they hold, the additional training, and years of experience. Each professional staff member either holds a degree in physical or life science or has many years of equivalent experience, and several hold advanced degrees in science or management.

The three new staff members added to the waste management program during the review period have advanced degrees in geology, geological engineering, hydrology and hydrogeology.

Low-level radioactive waste program: The staff has experience or training in civil and mechanical engineering, geology, hydrology, and other earth science, and environmental science. If additional expertise is needed, staff from other State offices are available.

Uranium mills program: Staff expertise in hydrology, geology, and structural engineering is available in-house and from other State offices.

The written job descriptions were not reviewed during this meeting because they were satisfactory in previous reviews, and they have not been changed.

² Additional guidance is provided in the criteria for Guidance of States and NRC in discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement (46 FR 7540, 36969 and 48 FR 33376).

15. Staffing Level (Category II)

NRC Guidelines

Professional staffing level should be approximately 1-1.5 person-years per 100 licenses in effect. The RCP must not have less than two professionals available with training and experience to operate the RCP in a way which provides continuous coverage and continuity. The two professionals available to operate the RCP should not be supervisory or management personnel.

For States regulating uranium mills and mill tailings, current indications are that 2 - 2.75 professional person-years of effort, including consultants, are needed to process a new mill license (including in situ mills) or major renewal, to meet requirements of Uranium Mill Tailings Radiation Control Act of 1978.

States which regulate the disposal of low-level radioactive waste in permanent disposal facilities should allow a baseline RCP staff effort of 3 - 4 professional technical person-years (in addition to the two professionals for the basic RCP indicated in the first sentence of this indicator). However, in some cases, the level of site activity may be such that a lower level is adequate, particularly if contractor support is on call. In any event, staff resources should be adequate to conduct inspections on a routine basis during operations of the LLW facility, including inspection of incoming shipments and licensee site activities and to respond to emergencies associated with the site. During periods of peak activity, additional staff or specialty consultants should be available on a timely basis.

Assessment

Based on observation and discussion with program management, the staffing level is adequate to meet the routine and emergency requirements in all three programs.

Radioactive materials program: For 412 specific licenses, there are six professional staff members. This calculates to 1.45 FTE per 100 licenses in effect.

Low-level radioactive waste program: There are 4.8 professional FTEs including a full-time on-site inspector. Although all disciplines identified under the "Qualification of Technical Staff" indicator are covered in-house, special consultants or experts from other offices within the State are available when needed.

Uranium mills program: There are 5.28 professional staff members in the uranium mills program, covering all disciplines identified under the "Qualification of Technical Staff" indicator.

16. Staff Supervision (Category II)

NRC Guidelines

Supervisory personnel should be adequate to provide guidance and review the work of senior and junior personnel.

Senior personnel should review applications and inspect licenses independently, monitor work of junior personnel, and participate in the establishment of policy.

Junior personnel should be initially limited to reviewing license applications and inspecting small programs under close supervision.

Assessment

From discussions, previous reviews, etc., it was determined that the section heads in the radioactive materials and waste management programs are both well qualified individuals, who have demonstrated their ability to provide the necessary guidance for their staffs.

Radioactive materials program: With one exception, the radioactive materials staff are all senior personnel. The one junior member of the staff has been working in a position equivalent to the NRC's licensing assistant. At the time of the review, she was being trained to conduct simple gauge inspections, and her work is closely monitored by senior staff.

Low-level radioactive waste and Uranium mill Programs: All staff in the waste management section are considered to be senior, including the three new members of the staff who have advanced degrees and years of experience. It was verified from interviews and copies of faxes between the waste site and the Olympia, Washington office that all licensing actions are reviewed by the section head. However, these reviews are not documented by a sign-off sheet. During discussions during the review, the section head agreed to add a sign-off sheet to the license file.

17. Training (Category II)

NRC Guidelines

Senior personnel should have attended NRC core courses in licensing orientation, inspection procedures, medical practices, and industrial radiography practices.

The RCP should have a program to utilize specific short courses and workshops to maintain an appropriate level of staff technical competence in areas of changing technology.

The RCP staff should be afforded opportunities for training that are consistent with the needs of the program.

Assessment

The State provided a complete list of all personnel and the dates they attended NRC training courses. Except for one senior inspector, who has not attended the licensing orientation course, all senior personnel have attended the core courses. The LLW program personnel have attended all of the NRC sponsored workshops on low level waste, e.g., performance assessment, and the mill program personnel have attended NRC sponsored workshops on uranium mills.

Experience has shown that the RCP takes excellent advantage of the training opportunities provided by the NRC and sends representatives to attend workshops and meetings to keep abreast of current issues. As indicated in their responses in the questionnaire, they also make excellent uses of courses offered by other agencies and universities.

18. Staff Continuity (Category II)

NRC Guidelines

Staff turnover should be minimized by combinations of opportunities for training, promotions, and competitive salaries.

Salary levels should be adequate to recruit and retain persons of appropriate professional qualifications. Salaries should be comparable to similar employment in the geographical area.

The RCP organization structure should be such that staff turnover is minimized and program continuity maintained through opportunities for promotion. Promotion opportunities should exist from junior level to senior level or supervisory positions. There also should be opportunity for periodic salary increases compatible with experience and responsibility.

Assessment

There was no staff turnover in any of the three programs within the RCP during the review period. According to program management, State employment is generally recognized as being under-paid relative to private sector jobs in the State. The last salary survey (done in 1994) showed health physicists to be approximately 15% behind comparable jobs outside state government. However, the lack of turnover would indicate this is not a significant detriment in attracting competent staff.

19. Technical Quality of Licensing Actions (Category I)

NRC Guidelines

The RCP should assure that essential elements of applications have been submitted to the agency, and that these elements meet current regulatory guidance for describing the isotopes and quantities to be used, qualifications of persons who will use material, facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Additionally, in States which regulate the disposal of low-level radioactive waste in permanent disposal facilities, the RCP should assure that essential elements of waste disposal applications meet State licensing requirements for waste product and volume, qualifications of personnel, facilities and equipment, operating and emergency procedures, financial qualifications and assurances, closure and decommissioning procedures and institutional arrangements in a manner sufficient to establish a basis for licensing action. Licensing activities should be adequately documented including safety evaluation reports, product certifications or similar documentation of the license review and approval process.

Prelicensing visits should be made for complex and major licensing actions.

Licenses should be clear, complete, and accurate as to isotopes, forms, quantities, authorized uses, and permissive or restrictive conditions.

The RCP should have procedures for reviewing licenses prior to renewal to assure that supporting information in the file reflects the current scope of the licensed program.

Assessment

Radioactive materials program: At the time of the review, the State had 412 specific licenses for radioactive materials, of which 22 meet the NRC criteria

for "major" licenses. The statistics provided by the State are for the 24-month period prior to this review. During that time, the State issued 65 new licenses, 119 renewals, and 445 other amendments. Thirty-four licenses were terminated. Twenty files, including four major licenses, with licensing actions within the past 24 months were selected for casework review. These included seven new licenses, four renewals in entirety, one amendment, and eight terminations. The types of licenses included: one type A broad scope academic, two fixed gauge, three portable gauge, one industrial radiography, one low-level radioactive waste processor, two institutional medical, one private practice medical, one manufacturer and distributor, one mobile nuclear service, two nuclear laundry, one nuclear pharmacy, and four R&D licenses. Cases handled by all license reviewers were included.

The technical quality of the licenses was excellent, meeting all of the criteria in the guidelines, and no generic problems were identified. According to the staff, each new license is personally delivered and explained to the licensee at the time it is issued. Prelicensing visits are at the discretion of the license reviewer and are generally based on the complexity of the application and the familiarity of the reviewer with the facility or the use of the radioactive material. Applicants for renewal are required to submit an entire new application. The license reviewer examines the renewal package and calls the licensee for clarification or update on questionable documents or information.

Low-level radioactive waste program: Two amendments were made to the US Ecology (American Ecology, Inc.) License No. WN-I019-2 for the operation of the low-level radioactive waste site. Amendment 19 (5/26/93) changed the corporate headquarters from Louisville, Kentucky, to Houston, Texas. Amendment 20 (4/28/95) administratively added the Facility Standards Manual (12/94) to License Condition 73.B. Both amendments were reviewed and found to meet the guideline criteria.

Uranium mills program: Since the last review, the State took actions on all three licensed facilities. The Joy Mining license (WN-I0220-1) was terminated. The Dawn Mining license (WN-I043-1) was amended four times. The Western Nuclear license (WN-I0133-1) was amended seven times. The reviewer verified that documentation for these actions was in the files.

The Dawn closure plan approval was the major licensing action completed since the last program review. The evaluation of the technical quality of licensing was focused on this action. The reviewer looked at the following documents in detail to make the evaluation:

1. License amendment #16 to WN-I043-2, dated Feb. 28, 1995. The license was reissued in its entirety.
2. Safety Evaluation Report for the Dawn Mining Company Alternate Closure Plan dated May 15, 1994, etc., dated Jan. 20, 1995.
3. Engineering Review of Dawn Mining Company Closure Plan, dated Jan. 5, 1995.

The licensing files were reviewed to ensure that the files contained the materials referenced in the license. The files were found to contain all documents in license condition 63 (the tie down condition).

The Safety Evaluation Report (SER) was evaluated to ensure that the State has considered all the technical areas necessary to adequately evaluate the ability of the tailings disposal closure design to meet the regulatory

requirements. The reviewer used the Standard Review Plan (SRP) for Title I mill tailings remedial action plan reviews as a guide in making the determination. The following major areas from the SRP were evaluated.

1. Geology and Seismology

The reviewer evaluated the information in Sections 3.1.8, Earth Elements, of the Final Environmental Impact Statement, dated November 1991. The description of the geology and seismic event analysis was adequately covered. The State chose the value that gave the highest ground acceleration for the regional geology and seismicity.

2. Geotechnical Stability

The State evaluated structural stability of the impoundment under both static and dynamic conditions. The factors of safety were more than twice the standard acceptable minimum values. The horizontal acceleration of 0.66 was the maximum value expected based on the regional geology and seismicity.

The State is requiring 90% of expected final settlement prior to placement of the final cover. Since the existing full tailings impoundments will have the evaporation ponds constructed on them, they will reach this level of settlement well in advance of placement of the final cover. TDA-4 will have material placed in it following dewatering of the small amount of existing tailings. The settlement of this impoundment will be ensured through the engineered placement of the dry tailings into the impoundment.

3. Surface Water Hydrology and Erosion Protection

The State evaluated the drainage area and concluded that the disposal area is not impacted by perennial or intermittent drainage. The only source of surface water is the amount of precipitation falling directly onto the tailings disposal areas. The State used the probable maximum precipitation (PMP) and probable maximum flood (PMF) to determine amounts of run-off and flow velocities for the site. The slopes will be 2% on the surface and 5 horizontal (H):1 vertical (V) and 10H:1V for the embankments. The surface will be covered by a soil/rock matrix to prevent erosion. The embankments will be riprapped with 2-inch and 3-inch rock for the 10% and 20% slopes. A riprapped diversion channel will be excavated to divert flood flows away from the impoundment. The PMP, PMF, rock size and durability, and surface water flow velocity were calculated following the guidance in the NRC Staff Technical Position (STP) for erosion protection.

4. Water Resources Protection

The State evaluated the groundwater conditions at the site and determined that there is existing contamination from tailings disposal areas (TDAs) 1, 2, and 3. They authorized a pilot groundwater remediation program in 1992. The test was completed and as part of the final closure plan an extensive groundwater remediation program will be initiated. The groundwater removed will be evaporated in the lined ponds constructed on TDAs 1, 2, and 3.

The final cover design addressed the infiltration of water through the cover and evaluated the uranium concentrations at the point of compliance (POC) and point of exposure (POE) wells. The predicted concentrations were below the standards.

5. Radon Attenuation and Site Cleanup

The evaluation of the cover for radon attenuation was done using the RADON model. The cover is a thick natural material cover rather than a highly engineered cover. This was done by the licensee to address the likelihood of the climax ecology of a Ponderosa pine forest and the resulting biointrusion of the site. The thick cover appears to address these issues and meets the radon flux requirement along with the water infiltration issues when evapotranspiration are considered. The State evaluated the design using the 1989 NRC guidance on radon cover designs. The default values were used if the licensee did not have defensible site specific data.

Overall Mill Evaluation

Review of this mill licensing action indicated that the State is reviewing the uranium mill closure plans in detail and documenting the actions through the preparation of environmental impact statements, safety evaluation reports, engineering evaluations, documentation of hand calculations verifying the licensee's calculations, and other evaluations documented through intraoffice memos.

The reviewer noted that the license (in conditions 7 and 8) did not authorize the licensee to possess the existing tailings in TDAs 1, 2, 3, and 4 or the uranium product produced in the processing of the filtercake from the mine dewatering water treatment plant. There was a misreference to license conditions 7 D&E instead of 7 C&D. The State staff agreed that these items should be fixed in the license and were done as administrative amendments.

20. Adequacy of Product Evaluations (Category I)

NRC Guidelines

RCP evaluations of manufacturer's or distributor's data on sealed sources and devices outlined in NRC, State or appropriate ANSI Guides should be sufficient to assure integrity and safety for users.

The RCP should review manufacturer's information in labels and brochures relating to radiation health and safety, assay, and calibration procedures for adequacy.

Approval documents for sealed source or device designs should be clear, complete and accurate as to isotopes, forms, quantities, uses, drawing identifications, and permissive or restrictive conditions.

Approval documents for radioactive waste packages, solidification and stabilization media, or other vendor products used to treat radioactive waste for disposal should be complete and accurate as to the use, capabilities, limitations, and site specific restrictions associated with each product.

Assessment

During the review period, the radioactive materials section issued one SS&D registry sheet amendment. The purpose was to add an additional shield to a previously approved portable x-ray fluorescence device. The amendment, which was approved in April 1993, was evaluated using the ANSI standards and NRC guidance in effect at that time. The NRC reviewer examined this case during the review and found the State's evaluation to be satisfactory. The reviewer discussed with program management and staff, however, that the program should

consider use of a mechanical engineer, when necessary, to support sealed source and device reviews.

According to the waste management section, no approval documents for radioactive waste packages or similar products were issued during the review period. Program management explained that when issuing approval documents they use the standard NRC safety evaluation report format.

21. Licensing Procedures (Category II)

NRC Guidelines

The RCP should have internal licensing guides, checklists, and policy memoranda consistent with current NRC practice.

In States which regulate the disposal of low-level radioactive waste in permanent disposal facilities, the RCP should have program specific licensing guides, plans and procedures for license review and policy memoranda which relate to specific aspects of waste disposal. The program should include the preparation of safety evaluation reports, product certifications, or similar documentation of license review and approval process.

License applicants (including applicants for renewals) should be furnished copies of applicable guides and regulatory positions.

The present compliance status of licensees should be considered in licensing actions.

Under the NRC Exchange-of-Information program, evaluation sheets, service licenses, and licenses authorizing distribution to general licensees should be submitted to NRC on a timely basis.

Standard license conditions comparable with current NRC standard license conditions should be used to expedite and provide uniformity in the licensing process.

Files should be maintained in an orderly fashion to allow fast, accurate retrieval of information and documentation of discussions and visits.

Assessment

Radioactive Materials Program: During the latter part of this review period, the licensing procedures were revised and improved. New forms were developed and existing ones changed, used on a trial basis, and discussed in staff meetings. As indicated in the Administrative Procedures assessment, the entire radioactive materials manual is being rewritten. The licensing section describes all types of actions and provides procedures for each type, including model documents and correspondence. The manual covers also reciprocity, policy directives, generic reviews, SS&D evaluations, peer review and management review, etc. The effect of the improved procedures was evidenced by the improved quality of the licensing actions. The State's license conditions were reviewed and found to be comparable to those of the NRC. It was verified that the one SS&D evaluation sheet and one license authorizing distribution to general licensees completed by the State during the review period were submitted to the NRC promptly. The files were orderly and the staff was able to quickly produce all documents requested by the reviewer.

Low-level Radioactive Waste and Uranium Mill Programs: For licensing actions in both the low-level radioactive waste and uranium mills programs, the State

essentially uses NRC NUREGS, Reg Guides, and similar documents as guidance. To comply with the guidelines above, the State uses the procedures for low-level radioactive waste licensing actions contained in: NUREG 1199, Standard Format and Content of a License Application for Low-Level Radioactive Waste Disposal Facility; NUREG 1200, Standard Review Plan for the Review of a License Application for Low-Level Radioactive Waste Disposal Facility; Reg Guide 8.15, Respiratory Protection; Reg Guide 8.23, Radiation Surveys at Medical Institutes; NUREG/CR-3343, Radiation Protection Practices for Low-Level Radioactive Waste; Reg Guide 4.15, Quality Assurance for Radioactive Materials Programs; Reg Guide 8.20, Bioassays; Reg Guide 10.5, Applications for Type A Licenses of Broad Scope; Reg Guide 10.8, Medical Use Programs Applications; Reg Guide 8.6, GM Counters; Reg Guide 4.18, Environmental Reports; Reg Guide 8.10, ALARA Philosophy; NUREG 1388, Environmental Monitoring; ANSI N323-1978; Reg Guide 8.13, Pregnancy; US DOE, Waste Acceptance and Criteria WHC-EP-0063-4.

22. Status of Inspection Program (Category I)

NRC Guidelines

State RCP should maintain an inspection program adequate to assess licensee compliance with State regulations and license conditions. The inspection program in all States should provide for the inspection of licensee's waste generation activities under the State's jurisdiction.

In States which regulate the disposal of low-level radioactive waste in permanent disposal facilities, the RCP should include provisions for pre-operational, operational, and post-operational facility inspections. The inspections should cover all program elements which are relevant at the time of the inspection and be performed independently of any resident inspector program. In addition, inspections should be conducted on a routine basis during the operation of the LLW facility, including inspection of incoming shipments and licensee site activities.

The RCP should maintain statistics which are adequate to permit program management to assess the status of the inspection program on a periodic basis. Information showing the number of inspections conducted, the number overdue, the length of time overdue and the priority categories should be readily available.

At least semiannual inspection planning should be done for the number of inspections to be performed, assignments to senior vs. junior staff, assignments to regions, identification of special needs and periodic status reports. When backlogs occur, the program should develop and implement a plan to reduce the backlog. The plan should identify priorities for inspections and establish target dates and milestones for assessing progress.

Assessment

At the time of the review, the computer records showed that there were no inspections overdue by more than 25 percent of scheduled frequency in any of the three programs.

Radioactive materials program: A random review of the computer records for the last three inspections for 45 (11%) of the priority 1 and 2 inspections and 64 (15%) of all inspections verified that the State was able to maintain their inspection schedule without incurring backlogs throughout the review period. The State maintains an active computerized database which tracks upcoming inspections. The staff was able to quickly provide the listings requested by the reviewer, and review of the files indicated the information was properly

entered into the system. Review of staff meeting minutes showed that the inspection schedule is discussed and assignments made during the monthly and weekly staff meetings. According to the State's answers to the questionnaire, 126 reciprocity notices were received, 7 of which were for industrial radiography. The program conducted 11 reciprocity inspections during the review period.

Low-level radioactive waste program: It was verified during the file reviews that a full team inspection of the low-level radioactive disposal site was conducted annually. It was also verified that the waste site resident inspector inspects at least 95 percent of incoming shipments.

Uranium mills program: It was verified during file reviews that all uranium mill inspections were conducted at the scheduled interval.

23. Inspection Frequency (Category I)

NRC Guidelines

The RCP should establish an inspection priority system. The specific frequency of inspections should be based upon the potential hazards of licensed operations, e.g., major processors, and industrial radiographers should be inspected approximately annually. Smaller or less hazardous operations may be inspected less frequently. The minimum inspection frequency, including initial inspections, should be no less than the NRC system.

Assessment

The reviewer was furnished a copy of the State's inspection schedule for review. All types of Washington licenses are inspected on a priority schedule which is at least equivalent to the NRC's and some cases more stringent. For example, Type A broad scope academic, manufacturing and distribution, and teletherapy licenses are all priority 1 licenses, inspected annually. Medical institutions licenses are priority 2, and portable gauges are priority 4.

According to the inspection policy, new licenses are inspected approximately six months after the license is issued, which is consistent with NRC requirements, and from 12 to 18 months after issuance to determine acceptable initial start-up performance prior to routine scheduling of inspections at the normal frequency.

The low-level radioactive waste disposal site license is inspected annually, as is the operating uranium mill and water treatment facility. The WNI Sherwood mill, which is in the process of license termination, is inspected biannually.

24. Inspectors' Performance and Capability (Category I)

NRC Guidelines

Inspectors should be competent to evaluate health and safety problems and to determine compliance with State regulations. Inspectors must demonstrate to supervision an understanding of regulations, inspection guides, and policies prior to independently conducting inspections.

For the inspection of complex licensed activities such as permanent low-level radioactive waste disposal facilities, a multidisciplinary team approach is desirable to assure a complete compliance assessment.

The compliance supervisor (may be RCP manager) should conduct annual field evaluations of each inspector to assess performance and assure application of appropriate and consistent policies and guides.

Assessment

All inspectors in the three programs have been accompanied by the Regional State Agreements Officer during previous reviews. Because the results of these accompaniments were all positive and all inspectors are fully qualified, no inspector accompaniments were conducted by the NRC during this review.

Radioactive materials program: Review of the documentation verified that all inspectors were accompanied by the radioactive materials program section head at least annually during the review period.

Low-level radioactive waste program: Review of the files showed that the waste management section head accompanied a team of inspectors each time they performed the annual inspection of the low-level radioactive disposal site. The multidisciplinary team from Olympia, Washington was led by the low-level waste project manager and included health physicists from the waste management, radioactive materials and environmental radiation sections.

Uranium mills program: According to discussions with the staff, the waste management section head also made periodic accompaniments of the uranium mill inspectors. The results of the accompaniments, however, were not documented. During the review, program management established a new policy calling for accompaniments of the waste management inspectors at three-year intervals and requiring documentation of all future accompaniments.

25. Inspection Reports (Category II)

NRC Guidelines

Findings of inspections should be documented in a report describing the scope of inspections, substantiating all items of noncompliance and health and safety matters, describing the scope of the licensees' programs, and indicating the substance of discussions with licensee management and licensee's response.

Reports should uniformly and adequately document the result of inspections including confirmatory measurements, status of previous noncompliance, and identify areas of the licensee's program which should receive special attention at the next inspection. Reports should show the status of previous noncompliance and the results of confirmatory measurements made by the inspector.

Assessment

According to statistics provided by the State, 340 inspections were performed in the twenty-four month period preceding this review. This included inspections by inspectors in the radioactive materials and waste management sections. Twenty-eight inspection reports were reviewed with the conclusion that the quality of the inspection reports was very good, and with few exceptions, met all criteria listed in the guidelines. The problems that were found related directly to deficiencies in the inspection procedures and forms. These issues are addressed in Enclosure 2.

Radioactive materials program: Twenty-one materials inspection reports were selected for casework review, including five major licensees. Inspection reports by all materials inspectors were reviewed as well as four team

inspections reports. The cases reviewed included licenses in the following categories: broad scope academic, specific academic, fixed and portable gauges, industrial radiography, low-level radioactive waste processor, medical, manufacturing and distribution, and nuclear laundry. The reviewer found that the quality of the inspection reports had improved significantly since the last review.

Low-level radioactive waste program: Since the last visit to the State, two annual team inspections had been conducted at the US Ecology low-level radioactive waste disposal site at Hanford, Washington. Both of these reports were reviewed in depth and the results discussed with the staff. Aside from two minor omissions in the forms that are addressed in Enclosure 2, the reports were complete and reflected a thorough, multidisciplinary inspection of the facility. The reviewer also examined the records of the monthly inspections performed by the onsite inspector. For the review period, all monthly inspection reports were in the proper file, complete with all enforcement correspondence. The enforcement actions were appropriate for the violation and were timely and professionally completed.

Uranium mills program: The reports of four uranium mill and one waste water treatment facility inspections were reviewed in depth. Deficiencies were found in all five of the inspection reports completed during the review period. Although most of the omissions in the reports related to faulty procedures, in one case the inspector neglected to properly identify the survey instrument, and in another, the background measurement was not recorded. These one-time errors were brought to the attention of the inspector and his section head.

26. Confirmatory Measurements (Category II)

NRC Guidelines

Confirmatory measurements should be sufficient in number and type to ensure the licensee's control of materials and to validate the licensee's measurements. In States which regulate the disposal of low-level radioactive waste in permanent disposal facilities, access to testing should be available on an "as needed" basis for confirming licensees' and applicants' programs for measurements related to nonradiological aspects of facility operations such as soils and materials testing and environmental sampling and analysis to demonstrate compliance with 10 CFR Part 61 or compatible Agreement State regulations and ensure facility performance. Conditions for nonradiological testing should be prescribed in plans or procedures.

RCP instrumentation should be adequate for surveying license operations (e.g., survey meters, air samples, lab counting equipment for smears, identification of isotopes, etc).

RCP instrumentation should include the following types: GM Survey Meter, 0-50 mR/hr; Ion Chamber Survey Meter, several R/hr; micro-R-Survey meter; Neutron Survey Meter, Fast and Thermal; Alpha Survey Meter, 0-1,000,000 c/m; Air Samplers, Hi and Lo Volume; Lab Counters, Detect 0.001 μ C/wipe; Velometers; Smoke Tubes; Lapel Air samplers.

Instrument calibration services or facilities should be readily available and appropriate for instrumentation used. Licensee equipment and facilities should not be used unless under a service contract. Exceptions for other State Agencies, e.g., a State University, may be made.

Agency instruments used for surveys and confirmatory measurements should be calibrated within the same time interval as required of the licensee being inspected.

Assessment

The State's instruments and their calibration records were examined. The State has all of the instrumentation listed in the guideline above and other instruments are available (such as a portable multichannel analyzer and radon detectors).

Each instrument had stickers showing it was calibrated at the appropriate interval depending on the type of meter. It was verified that instruments used at licensee facilities are calibrated at intervals equal to the calibration interval required of the licensee.

According to the State, instruments are calibrated by the manufacturer following repair or on a routine basis by the University of Washington at the Northwest Radiation Instrument Calibration Facility. Their procedures are on file with the radiation safety officer of the Division.

The radioactive materials, waste management, nuclear safety, and environmental radiation sections each have their own instruments; however, in case of an emergency, instruments may be borrowed from another section. In all, the Division has over 100 instruments available to the staff. In addition, the program performs non-radiological analysis of groundwater.