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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
QUESTIONNAIRE

Name of State: **Washington**

Reporting Period: May 5, 2018 to 2 January 7, 2022 is the IMPEP review period, however the reporting period for this questionnaire will end November 30, 2021. Prior to IMPEP, our numbers will be updated to include the final four months of the review period.

Note: If there has been no change in the response to a specific question since the last IMPEP questionnaire, the State or Region may copy the previous answer, if appropriate.

A. GENERAL

Please prepare a summary of the status of the State's or Region's actions taken in response to each of the open recommendations from previous IMPEP reviews.

The 2018 IMPEP review team made two recommendations and determined that the recommendations from the 2013 IMPEP review should be closed.

Previous recommendation:

Washington should review, revise, and update the training and qualification requirements for all aspects of its Agreement State Program to ensure the essential objectives of the NRC's IMC 1248 appendices A, B, D, E, H, and I are adopted. (Section 4.1)

Response:

We amended our Radioactive Materials training and qualification procedures to adopt the updated NRC's IMC 1248 Appendices A, B,D, E,H, and I. New qualification and training sheet was adopted.

B. COMMON PERFORMANCE INDICATORS

Technical Staffing and Training

1. Please provide the following organization charts, including names and positions:

- (a) A chart showing positions from the Governor down to the Radiation Control Program Director; Organizational Charts are attached to the PDF File.
- (b) A chart showing positions of the radiation control program, including management; and

¹ Estimated burden per response to comply with this voluntary collection request: 53 hours. Forward comments regarding burden estimate to the Records Management Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0183), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

Organizational Charts are attached to the PDF File.

- (c) Equivalent charts for sealed source and device evaluation, low-level radioactive waste and uranium recovery programs, if applicable.

Sealed source and device evaluation, and low-level radioactive waste and uranium recovery programs are part of the Office of Radiation Protection organizational chart.

Low-level radioactive waste and uranium recovery are under the Office Radiation Protection- Radioactive Waste Section with Kristen Schwab as the Section Manager.

The Sealed Source and device evaluation program reside in the Radioactive Material section. Currently there are three qualified Sealed Source Device evaluators.

2. Please provide a staffing plan, or complete a listing using the suggested format below, of the professional (technical) full-time equivalents (FTE) applied to the radioactive materials program by individual. Include the name, position, and, for Agreement States, the fraction of time spent in the following areas: administration, materials licensing & compliance, emergency response, low-level radioactive waste, uranium recovery, other. If these regulatory responsibilities are divided between offices, the table should be consolidated to include all personnel contributing to the radioactive materials program.

Radioactive Materials Section

Name	Position	FTE%	Area of Efforts
Tracy Eaton <i>Previously: Billie Harvey</i>	Radiation Health Physicist 4	100%	Section Manager
Tristan Hay	Radiation Health Physicist 3	100%	Medical Program Manager
Raj Maharjan <i>Previously: Andrew Halloran</i>	Radiation Health Physicist 3	100%	Laboratory Program Manager
Jasmin Hernandez <i>Previously: Steve Matthews</i>	Radiation Health Physicist 3	100%	Industrial Program Manager
Morgan Bullock	Radiation Health Physicist 2	100%	Inspector/Licensing Reciprocity General licensing
James Killingbeck	Radiation Health Physicist 2	100%	Inspector/Licensing Investigations Primary LVS/NSTS Coordinator Special Permits
Muneer Saleh	Radiation Health Physicist 2	100%	Inspector/Licensing
Brennagh Greene	Radiation Health Physicist 2	100%	Inspector/Licensing

Boris Tesnov	Radiation Health Physicist 2	100%	Inspector/Licensing
Tanner Depert	Database Manager	100%	Manage Program Database Project Manager on WBL Transition
Sam Mendez <i>Previously: Laura Baune</i>	Administrative Assistant 3	100%	Administrative Duties

3. Please provide a listing of all new professional personnel hired into your radioactive materials program since the last review, indicate the date of hire; the degree(s) they received, if applicable; additional training; and years of experience in health physics or other disciplines, as appropriate.

New Staff- Radioactive Materials Section
Since May 5, 2018- January 1, 2022

Name & Position	Hire Date	Degree	Additional Training
Billie Harvey RHP4 Section Manager	Start: 12/01/2019 End: 5/25/2021	MS: Physics	A CHP. Spent 4 Yrs as a WA agreement state inspector/licensing. Medical ARSO at MD Anderson
Jonathan Napier RHP2 Inspector/Licensing	Start: 04/16/2018 End: 03/31/2021	PhD: Health Physics	Livermoore National Lab Health Physicist.
Laura Baune AA3 Administrative Assistance	Start: 06/01/2019 End: 05/01/2020	NA	Was an admin for DOH for years prior.
Muneer Saleh RHP2 Inspector/Licensing	Start: 10/01/2021	PhD: Physics	His past experiences include teaching nuclear physics, engineering physics to students. His health physics background includes working for the National Atomic Energy Commission as the head of Environmental Monitoring.

Brennagh Greene RHP2 Inspector/Licensing	Start: 12/01/2021	BS. Mathematics	Health Physicist & Radiological Controls Technician at the Naval shipyard.
Jasmin Hernandez RHP3 Industrial Program manager	Start: 12/16/2021	BS. Biology	ARSO and Health Physicist PSNS & IMF Radiological Affairs support Division and 16 years experience in radiation protection and emergency response.
Sam Mendez AA3 Administrative Assistance	Start: 12/16/2021	BS. Sociology	Training and experience in logistics and customer service.
Tracy Eaton RHP4 Section Manager	Start: 12/16/2021	BS. Applied Science	CHP, NRRPT, 35 years of experience in radiological controls. CHP at PNNL, and Washington River Protections.
Boris Tesnov RHP2 Inspector/Licensing	Start: 01/01/2022	PhD. Public Health MS. Nuclear Physics & Engineering	NRRPT, Experience as a EHS engineer and safety specialist. Was a Radiation protection officer at the joint research center in Belgium.

4. Please list all professional staff who have not yet met the qualification requirements for a radioactive materials license reviewer or inspector. For each, list the courses or equivalent training/experience they need and a tentative schedule for completion of these requirements.

Qualifications- Radioactive Materials Section

Name	Inspection Qualifications	Inspections -Not qualified	Licensing Qualifications	Licensing -Not Qualified
Steve Matthews - RHP3	Fully Qualified	N/A	Partially Qualified	SSDR
Billie Harvey RHP4**	Partially Qualified	Well Logging	Partially Qualified	Well logging, SSDR
Tristan Hay - RHP3	Partially Qualified*	Well Logging	Partially Qualified*	Well Logging
Andrew Halloran – RHP3**	Partially Qualified	Well Logging	Partially Qualified	Well Logging, SSDR
Raj Maharjan - RHP3	Partially Qualified*	Well Logging	Partially Qualified*	Well logging

James Killingbeck – RHP2	Partially Qualified*	Gamma Knife, Broad Scope, Manufacturer, Pharmacy	Partially Qualified*	Gamma Knife, Well logging, Board Scope, SSDR
Jonathan Napier- RHP2**	Partially Qualified	Investigations, Brachytherapy, HDR, Gamma Knife, Well logging	Partially Qualified	Industrial Radiography, Manufacturer, Nuclear pharmacy, HDR, Gamma Knife, Well Logging, SSDR
Morgan Bullock - RHP2	Partially Qualified*	Gamma Knife, Well Logging	Partially Qualified*	Well logging
Muneer Saleh - RHP2	Partially Qualified	In Training	Partially Qualified	Only qualified in Portable gauges.
Brennagh Greene - RHP2	Not Qualified*	In Training	Not Qualified*	In Training
Boris Tesnov - RHP2	Not Qualified*	In Training	Not Qualified*	In Training
Jasmin Hernandez – RHP3	Not Qualified*	In Training	Not Qualified*	In Training
Tracy Eaton – RHP4	Not Qualified*	In Training	Not Qualified*	In Training

***Tentative Schedule for becoming qualified is dependent on the release of COVID-19 restrictions.**

**** Staff who no longer work in our section.**

5. Identify any changes to your qualification and training procedure that occurred during the review period.

All training and qualification procedures were changed and updated since last MPEP. Too many changes to list here. Many parts of the procedure are brand new elements to be in compliance with the new guidance from 1248. Review procedures to see new training and qualification program.

6. Please identify the technical staff that left your radioactive materials program during the review period and indicate the date they left.

Staff Departures- Radioactive Materials Section

Name	Position	Last Day
Steve Matthews	RHP 3	11/01/2021
Billie Harvey	RHP 4	5/25/2021
Andrew Halloran	RHP 3	04/30/2021
Jonathan Napier	RHP 2	03/31/2021

7. List any vacant positions in your radioactive materials program, the length of time each position has been vacant, and a brief summary of efforts to fill the vacancy.

Staff Vacancies - Radioactive Materials Section

Vacant Position	Recruitment efforts
<p>Radioactive Materials Section Manager – RHP4</p>	<p>The Radioactive Materials Section Manager position was vacated 1 July 2017 when Craig Lawrence retired. His position was temporarily filled by Curt DeMaris as an interim Section Manager from July 2017 until November 16, 2017, when it was permanently filled by Steve Matthews, while vacating the Industrial Program Manager position.</p> <p>Steve Matthews Vacated the section manager position in March 2019. Recruitment was conducted in Fall 2018- No candidate was selected.</p> <p>Manager Position was Vacant from March 2018 –December 2019. During that time a Summer recruitment 2019 was conducted – No candidate was Selected.</p> <p>During Harborview – The Emergency Response section manager Mark Henry and Waste Section Manager Kristen Schwab alternated program oversight.</p> <p>Fall Recruitment 2019 – Billie Harvey was selected as the Section Manager until May 2021 when she left.</p> <p>Morgan Bullock was selected as the interim section manager starting July 16, until October 31, 2021.</p> <p>August Recruitment 2021 was conducted – A candidate was selected.</p> <p>After October 31,2021 Tristan Hay is selected as interim section manager.</p> <p>Tristan Transitioned out of the interim manager position with the start of the new section manager, Tracy Eaton, on December 16, 2021.</p> <p>Start date: 12/16/2021 (Filled by Tracy E.)</p>
<p>Radiation Health Physicist -RHP3</p> <p>Industrial Program Manager</p>	<p>The Industrial Program Manager, Steve Matthews, retired on 1 November 2021. Recruitment was completed in November. A candidate was selected.</p> <p>Start date: 12/16/2021 (Filled by Jasmine H.)</p>
<p>Radiation Health Physicist -RHP2</p>	<p>Raj’s former HP2 position has remained vacant since September 16, 2021. A candidate was selected.</p> <p>Start date: 12/01/2021 (Filled by Brennagh G.)</p>

Radiation Health Physicist -RHP2	HP2 position that was filled by Pamala Walsh. In April 2018 she retired. This position has been vacant ever since. Currently we opened it for recruitment in August 2021. A candidate was selected. Start date: 01/01/2022 (Filled by Boris T.)
Administrative Assistant 3- AA3	Our former Administrative Assistant 3, Laura Baune took a COVID-19 Emergency Response Support Position. Currently we are backfilling and the position is filled. Start date: 12/16/2021 (Filled by Sam M.)

8. For Agreement States, does your program have an oversight board or committee which provides direction to the program and is composed of licensees and/or members of the public? If so, please describe the procedures used to avoid any potential conflict of interest.

We do not have an oversight board. Our direction comes from upper management and the state legislature. However, we do invite an outside manager from other sections as part of our interview panel.

Status of Materials Inspection Program B.2.0

9. Please identify individual licensees or categories of licensees the State is inspecting less frequently than called for in NRC's Inspection Manual Chapter (IMC) 2800 and explain the reason for the difference. The list only needs to include the following information: license category or licensee name and license number, your inspection interval, and rationale for the difference.

We are not inspecting any license categories at intervals less than NRC IMC 2800, however all but industrial radiographers are being inspected at more frequent intervals.

10. Please provide the number of routine inspections of Priority 1, 2, and 3 licensees, as defined in IMC 2800 and the number of initial inspections that were completed during each year of the review period.

Number of Routine Inspections

Review Period	NRC Priority Level	Number of Inspections
2018	1,2,3	76
2019	1,2,3	51
2020	1,2,3	25
2021	1,2,3	23

*Doesn't Include inspections that are currently completed but not closed out in the database. COVID-19 and Harborview impacts will show in the corresponding years.

***New inspections are included in this count; pre-licensing site visits are not. Also, not all new licenses were able to get a full pre-licensing site visit, and an initial inspection within the 6 months.

11. Please submit a table, or a computer printout, that identifies inspections of Priority 1, 2, and 3 licensees that were conducted overdue.

As of 11/1/2021 we only have two licensee that have exceeded the overdue date.

- (1) Licensee Name: **Cardinal Health 414 LLC**
- (2) License Number: **WN-NP003-1**
- (3) Priority (IMC 2800): **2**
- (4) Last inspection date or license issuance date, if initial inspection: **9/12/2018**
- (5) Date Due: **9/12/2020**
- (6) Date Performed: **9/17/2021**
- (7) Amount of Time Overdue: **5 days**
- (8) Date inspection findings issued: **none**

*** One limitation to note- Our database Doesn't record the date it was due for completed inspections. Once the inspection is complete, the "due date" is overwritten to the new due date and calculates the field based on the completed inspection date.*

- 1) Licensee Name: **RLS (USA) Inc.**
- (2) License Number: **WN-NP002-1**
- (3) Priority (IMC 2800): **2**
- (4) Last inspection date or license issuance date, if initial inspection: **8/10/2018**
- (5) Date Due: **8/10/2020**
- (6) Date Performed: **12/2/2021**
- (7) Amount of Time Overdue: **About 4 months past 1 year grace period**
- (8) Date inspection findings issued: **none**

12. Please submit a table or computer printout that identifies any Priority 1, 2, and 3 licensees-and initial inspections that are currently overdue, per IMC 2800.

None at this time.

13. Please provide the number of reciprocity licensees that were candidates for inspection per year as described in IMC 1220 and indicate the number of reciprocity inspections of candidate licensees that were completed each year during the review period.

Reciprocity Inspections

Year	Number of Active Reciprocity Licensees (Pri 1,2,3)	Total Inspections	Eligible to be counted	% of Pri 1,2,3 Inspected
2018	19	5	5	26%
2019*	23	10	7	30%
2020*	20	2	1	5%
2021*	15	3	2	13%

*We had program limitations due to Covid-19 and Harborview
We conduct reciprocity inspections every year and count them regardless if they were inspected last year. For the IMPEP team we have pulled out the reciprocity candidates that are eligible to be counted for that year.

Technical Quality of Inspections

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

Currently there are no changes to the written procedures, although COVID-19, Harborview, and lack of management staffing have limited us to make the necessary changes to update our procedures.

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

Accompaniments for Review Period

Inspector	Accompaniment Reviewer	Total in Review Period
Steve Matthews	Earl	1
Jim Killingbeck	Tristan, Andy, Steve	3
Tristan Hay	Earl, Morgan, Mark	3
Andy Halloran	Mark, Billie, Tristan,	5
Raj Maharjan	Steve, Billie, Earl	5
Morgan Bullock	Steve, Mark, Tristan, Billie	4
Jonathan Napier	Mark, Billie	3
Billie Harvey		0

**Earl Fordham and Mark Henry were interim section managers during the review period.*

*** We had program limitations due to Covid-19 and Harborview some documentation was not filled.*

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

We have ion chambers, NaI probes, GM detectors, scintillation detectors, and a neutron meter. Most meters are calibrated by either Ludlum or Fluke Victoreen. There have been no changes in their procedures or capabilities since prior to the last IMPEP. Meters that need repair or cannot be calibrated, are sent to the manufacturer for calibration/repair. We have several meters out of calibration at any one time. Those meters are segregated from the calibrated ones and sent in as needed. Calibration certificates are reviewed by the RSO and kept on file. We always have a sufficient number of calibrated meters to meet our needs.

The Washington State Public Health Laboratory, WN-L074-1, has sufficient capabilities to meet our needs for wipe sample and leak test analysis.

Technical Quality of Licensing Actions

17. How many specific radioactive material licenses does your program regulate at this time?

Currently we have 320 Active Specific Licensees.

Licensee Counts

Report Run Date:: 11/14/2021

	Total	Active	Inactive	Current	Expired	New	Suspended	Terminated	Timely Renew
<u>Specific Licensees</u>	1410	320	1090	218	16	15	0	1089	71
College/University	40	6	34	5	0	0	0	34	1
Civil Defense	3	0	3	0	0	0	0	3	0
Industrial	654	139	515	89	11	2	0	515	36
Ind Radiography	79	13	66	6	0	4	0	64	5
Laboratory	261	63	198	48	4	1	0	198	10
Medical	358	93	265	65	1	8	0	266	18
Nuclear Pharmacy	15	6	9	5	0	0	0	9	1
<u>General Licensees</u>	1247	404	843	40	10	0	0	49	5
Federal	50	46	4	0	0	0	0	0	0
State	1197	358	839	40	10	0	0	49	5
<u>M/DU Registrants</u>	215	0	215	0	3	0	0	212	0
<u>Reciprocity</u>	275	18	257	26	227	2	0	19	1

18. Please identify any major, unusual, or complex licenses which were issued, received a major amendment, were terminated, decommissioned, submitted a bankruptcy notification or renewed in this period.

Major Licensing Actions During Review Period

Licensee Information:	Summary:
Vista Veterinary Hospital WN-M0317-1	New license for a veterinary hospital using Vivos, inc. IsoPET administration kits for brachytherapy treatment for the treatment of solid cancer mass in dogs and in cats. The treatment is manufactured by IsoTherapeutics Group, LLC.
Permafrix	This was for Harborview Permafrix was originally a Reciprocity licensee, and became a Specific Licensee.
Animal surgical Clinic of Seattle	New veterinary license for the use of Tin-117m in canines for arthritis (M0322)

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

Please see attached Excel Sheet outlining the exemptions given during COVID-19.

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

We routinely update our licensing templates to reflect current licensing policies and procedures. We have added specific license conditions to update devices using of radioactive materials, and other use conditions since the last IMPEP.

Reciprocity procedures have changed to include additional information for applying for reciprocity. For example Training certificates, copy of Operating and Emergency procedures, and when possible have the Specific License State or NRC region fill out questions about the licensee. Since the Harborview incident Contractors working on irradiator removal, installation, or resourcing are required to submit work plans to our laboratory manager for office review prior to the work happening.

The team was working on updating procedures and Due to Covid it was not finalized.

21. Identify by licensee name and license number any renewal applications that have been pending for one year or more. Please indicate why these reviews have been delayed and describe your action plan to reduce the backlog.

Backlog of Renewal Licensing Actions

#20-09-16	IR074	APPLUS RTD USA INC	RENEW	9/11/2020	James Killingbeck
#20-03-52	M0123-2	BLOODWORKS NORTHWEST	RENEW	3/30/2020	James Killingbeck
#20-02-09	L070	BENTON COUNTY PUBLIC WORKS	RENEW	2/6/2020	James Killingbeck
#19-10-34	L080-2	COMPONENT CONCEPTS INC	RENEW	8/23/2019	James Killingbeck
#19-07-31	I0342	STRATA GEOTECHNICAL ENGINEERING	RENEW	7/29/2019	James Killingbeck
#19-07-09	I0246	TERRA ASSOCIATES INC	RENEW	7/8/2019	James Killingbeck
#18-10-23	I0507	TERRACON CONSULTANTS INC	RENEW	10/22/2018	James Killingbeck

During covid agency leadership identified working from home as a top priority this created alternative work processes and led to a backlog in licensing and inceptions.

Technical Quality of Incident and Allegation Activities

22. For Agreement States, please provide a list of any reportable incidents not previously submitted to NRC (See Procedure SA-300, *Reporting Material Events*, for additional guidance, OMB clearance number 3150-0178). The list should be in the following format:

None.

23. Identify any changes to your procedures for responding to incidents and allegations that occurred during the period of this review.

We have made a few changes to our procedures regarding reporting to the HOO and NMED for all reportable incidents. Lesson Learned from Harborview have led to change some processes, but not all changes have been captured in our written procedures. See procedure for updates.

C. NON-COMMON PERFORMANCE INDICATORS

Compatibility Requirements

24. Please list all currently effective legislation that affects the radiation control program. Denote any legislation (RCWs) that was enacted or amended during the review period.

Chapter 70A.388 RCW “Nuclear Energy and Radiation”, This section was previously RCW 70.98.

None.

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

Washington’s regulations for control of radiation are found in the Washington Administrative Code and apply to all radioactive materials and devices designed to produce radiation. Washington’s radiation regulations are not subject to any “sunset” laws.

26. Please review and verify that the information in the enclosed State Regulation Status (SRS) sheet is correct. For those regulations that have not been adopted by the State, explain why they were not adopted, and discuss actions being taken to adopt them. If legally binding requirements were used in lieu of regulations and they have not been reviewed by NRC for compatibility, please describe their use.

2018-1	Medical Use of Byproduct Material – Medical Event Definitions, Training and Experience, and Clarifying Amendments, Parts 30, 32 and 35	01/14/2022	RATS 2018-1 has not been adopted yet. We are currently working on it.
2018-2	Miscellaneous Corrections -	12/21/2021	RATS 2018-2 has not been

	Organizational Changes 10 CFR Parts 37, 40. 70 and 71		adopted yet. Has been reviewed by the NRC; No comments.
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27. If you have not adopted all amendments within three years from the date of NRC rule promulgation, briefly describe your State's procedures for amending regulations in order to maintain compatibility with the NRC, showing the normal length of time anticipated to complete each step.

Rule making process takes approximately 9 to 12 months from the development stage to the final adoption by the Secretary of Health and filing with the Code Reviser's Office, after which the rules become effective in 31 days. Washington State follow the Administrative Procedure Act, chapter 34.05 RCW when doing rule making.

Currently The rule making process can take more than 12 months due to Covid-19.

Washington can adopt the NRC amendments using the "exception" rule making process. This process allows the Department to adopt the federal rule changes without material change.

Stakeholders, the NRC, other state and federal agencies, and interested parties have the opportunity to review and provide comments to the Department during the rule making process. Comments are considered and changes are made, if needed, and the regulations are finalized, approved, and filed.

Sealed Source and Device (SS&D) Evaluation Program

29. Prepare a table listing new and amended (including transfers to inactive status) SS&D registrations of sources and devices issued during the review period. The table heading should be:

Action	Product	Registry Number	Manufacturer	Distributor	Date Issued	Type of Action
SSDR Amendment	IsoRay — Brachy Therapy Source	WA-1220-S- 101-S	IsoRay	Same	6/12/202 0	Redesigning labels to update IsoRay logo and branding.
New SSDR	GT Medical — Gamma Tile	WA-1509-D- 101-S	GT Medical	Same	4/23/202 1	GammaTile device with Cs-131 source (From IsoRay) for treatment of intracranial neoplasms

30. Please include information on the following questions in Section A, as they apply to the SS&D Program:

Technical Quality of Licensing Actions - Questions 18-22

Technical Quality of Incident and Allegation Activities - Questions 23-24

**Low Level Waste and Uranium recovery Sections in the other questionnaire.*

Questionnaire Sections:

III. Low-level Radioactive Waste Disposal Program

IV. Uranium Recovery Program

Waste Processor

Question #2

2. Please provide the following organization charts, including names and positions:
 - (a) A chart showing positions from the Governor down to the Radiation Control Program Director;
 - (b) A chart showing positions of the radiation control program, including management; and
 - (c) Equivalent charts for sealed source and device evaluation, low-level radioactive waste and uranium recovery programs, if applicable.

Waste Section:

Please see the COMMON PERFORMANCE INDICATOR response for this question.

Question #3

Please provide a staffing plan, or complete a listing using the suggested format below, of the professional (technical) full-time equivalents (FTE) applied to the radioactive materials program by individual. Include the name, position, and, for Agreement States, the fraction of time spent in the following areas: administration, materials licensing & compliance, emergency response, low-level radioactive waste, uranium recovery, other. If these regulatory responsibilities are divided between offices, the table should be consolidated to include all personnel contributing to the radioactive materials program. If consultants were used to carry out the program's radioactive materials responsibilities, include their efforts. The table heading should be:

<u>Name</u>	<u>Position</u>	<u>Area of Effort</u>	<u>FTE%</u>
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Waste Section's current staffing levels:

(LLRW)

K. Schwab	HP4	Administration	30%
G. Rosado	HP-3	Licensing/Compliance	80%
C. Rogers	HP3	Licensing/Compliance	20%
S. Pachernegg	Engineer	Engineering	10%
B. Stasney	Hydrogeo	Env Monitoring/Sampling	5%

(Uranium Recovery)

K. Schwab	HP4	Administration	30%
B. Stasney	Hydrogeo	Lic/Comp/Closure	90%
M. Aunan	Hydrogeo	Lic/Comp/Closure	95%
S. Pachernegg	Engineer	Engineering	80%
C. Rogers	HP3	Health Physics	5%

(Radioactive Waste Processor)

K. Schwab	HP4	Administration	30%
C. Rogers	HP3	Licensing/Compliance	70%
G. Rosado	HP3	Licensing/Compliance	15%
S. Pachernegg	Engineer	Engineering/ Comp.	5%
B. Stasney	Geohydr.	Env Monitoring/Sampling	5%

Question #4

Please provide a listing of all new professional personnel hired into your radioactive materials program since the last review, indicate the date of hire; the degree(s) they received, if applicable; additional training; and years of experience in health physics or other disciplines, as appropriate.

Waste Section:

Meg Aunun was hired October 1, 2021. Due to lack of staffing, the section was able to hire a HG3 (Hydrogeologist 3) to support the Uranium Recovery program. She has an Associate of Science with a Geology focus and a Bachelor and Master of Science in Geology, both specializing in Hydrogeology. She completed an intern with the Idaho Department of Environmental Quality and as a University of Idaho teaching assistant responsible for Physical Geology, Field Geology, and Geophysics classes. She then worked as a research hydrogeologist for one and a half years. she gained a variety of experiences on their four-person technical team, all of which are directly relevant to this position, including field work (drilling, water quality sampling, surface water flow measurements, land use characterization), data management and assessment (including statistics and working with large data sets), report writing and presentation of findings to technical and non-technical audiences.

Gregorio Rosado accepted a temporary HP3 appointment from November 6, 2020 until March 31, 2021 due to loss of staff to Covid response team activation. Due to lack of staffing, the section was able to hire an additional HP3. Gregorio applied for this position and accepted the position on May 16, 2021. He currently serves as the program lead for the LLRW program. Prior to this he served as an HP2 supporting the LLRW program for over 5 years. Gregorio has taken numerous NRC and DOT classes including the Introductory Health Physics call (H-117). Gregorio has an A.S. in General Science, an A.S. in Nuclear Medicine Technology, and a B.S. Radiation and Imaging Science. Gregorio has 11 years' experience in the imaging aspect of health physics, approximately two years' experience supervising and overseeing compliance to nuclear medicine regulations. Gregorio is a Registered Radiology Technologist (ARRT)(RT) and a certified Nuclear Medicine Technologist (NMTCB)(N).

Camille Galeno was hired as a full-time back-fill administrative assistant in April of 2021. She reduced her hours to part-time in September of 2021.

Question #5

Please list all professional staff members who have not yet met the qualification requirements for a radioactive materials license reviewer or inspector. For each, list the courses or equivalent training/experience they need and a tentative schedule for completion of these requirements.

Waste Section:

Sheila Pachernegg is the program engineer. She does not perform independent licensing or compliance activities. She does, however, perform independent engineering inspections.

Gregorio Rosado is the Program Lead for the US Ecology facility. He is in the final stages of being signed-off as a qualified inspector. He has completed all the required NRC inspection coursework, and only needs to be accompanied by the section supervisor, per the requirements of the Waste Management Sections Procedure WMS 102, Staff Qualifications and Training. Covid-19 and the office moves delayed Gregorio's sign-off. Gregorio should be signed-off by the end of 2021 unless there are state imposed Covid-19 travel restrictions. Gregorio has completed all of the required NRC licensing coursework for licensing. Per the Waste Management Sections Procedure WMS 102, Staff Qualifications and Training Gregorio must complete a number of independent licensing actions to be signed-off. Gregorio should be signed-off to perform independent licensing actions by the end of 2022. Currently Gregorio's work is reviewed by a signed-off staff person and the section supervisor.

Meg Aunan was hired as a Hydrogeologist 3 for the Uranium Recovery program in October of 2021. Her applications for the NRC licensing and inspecting classes have been submitted to the NRC. It is anticipated Meg will be qualified to perform independent inspection and licensing actions in 2022/23. Meg currently works under the direction of the staff Hydrogeologist 4.

Question #6

Identify any changes to your qualification and training procedure that occurred during the review period.

Waste Section:

The Waste Section procedure WMS 102, Staff Qualifications and Training, was revised in 2019.

WMS 102 Rev 4, May 2019:

- Attachment 1 Changed from "recommended courses" to "required" courses for LLRW & Uranium Recovery
- Added performance assessment course to required courses for LLRW inspector
- Added NRC 's Health Physics for Uranium Recovery Course (F-104) for U- Mill Inspector
- Added NUREG-1573 to reading list for LLRW Disposal Facility

Question #7

Please identify the technical staff that left your radioactive materials program during the review period and indicate the date they left.

Waste Section:

Kevin Siebert, HP3. Kevin did not work for the Waste section from May of 2020 through February 28, 2021 as he supported the State's Covid-19 response full time.

Kevin Siebert, HP3: Kevin terminated employment with Office of Radiation Protection on 10/18/2021, with a final separation from state service on November 18, 2021.

Natasha Wiseman, AA3: Natasha went on long-term leave in April of 2021. She terminated employment with Office of Radiation Protection on 10/18/2021.

Question #8

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

Waste Section:

- HP-2: This is the position vacated when Gregorio Rosado accepted the HP3 position on May 16, 2021. This position was posted, with a duty station of Richland, in October of 2021. Due to other industry competition we did not receive any viable applicants. The duty station has since been revised to Tumwater and is in the process of being posted again.
- HP-3: This is the position vacated by Kevin Sibert on November 18, 2021. The position is in the process of being posted, with a duty station of Richland.
- AA-3: The section is operating with a temporary part-time AA-3. The section is actively interview for a full time AA-3 at this time.

Question #9

For Agreement States, does your program have an oversight board or committee which provides direction to the program and is composed of licensees and/or members of the public? If so, please describe the procedures used to avoid any potential conflict of interest.

Waste Section:

The section has no oversight board or committee providing any type of direction to the program.

Question #10

Please identify individual licensees or categories of licensees the State is inspecting less frequently than called for in NRC's Inspection Manual Chapter (IMC) 2800 and explain the reason for the difference. The list only needs to include the following information: license category or licensee name and license number, your inspection interval, and rationale for the difference.

Waste Section:

The Waste Section does not inspect any licensee less frequently than called for in NRC's IMC 2800.

Question #11

Please provide the number of routine inspections of Priority 1, 2, and 3 licensees, as defined in IMC 2800 and the number of initial inspections that were completed during each year of the review period.

For the Waste Section, the following inspections have been conducted since May 5, 2018 (“routine” inspections are “slice-of-the-pie” modules of the Annual Radiation Safety inspection):

US Ecology (USE) LLRW Disposal Facility License # WN-I019-2

- 2018 – 4 routine, 2 surveillance
- 2019 – 5 routine; 6 surveillances
- 2020 – 2 routine (partial remote; supervisor at opening and closing); 1 surveillance (onsite)
- 2021 – 2 routine (onsite); 1 surveillance

Dawn Mining Company (DMC) License # WN-I043-2

- 2018 – 1 Annual Radiation Safety inspection; 15 engineering field inspections
- 2019 – 1 Annual Radiation Safety inspection; 19 engineering field inspections
- 2020 – 1 Annual Radiation Safety inspection; 13 engineering field inspections
- 2021 – 1 Annual Radiation Safety inspection; 11 engineering field inspections

Perma-Fix Northwest (PFNW) License # WN-I0393-1 and WN-I0508-1

- 2018 – 5 routines, 2 surveillances
- 2019 – 6 routine, 4 surveillances
- 2020 – 5 routine (1 onsite; 4 remote)
- 2021 – 5 routine (3 remote; 2 onsite)

Question #12

Please submit a table, or a computer printout, that identifies inspections of Priority 1, 2, and 3 licensees and initial inspections that were conducted overdue.

Waste Section:

There were no overdue inspections during the review period.

Question #13

Please submit a table or computer printout that identifies any Priority 1, 2, and 3 licensees-and initial inspections that are currently overdue, per IMC 2800. At a minimum, the list should include the same information for each overdue inspection provided for Question 12 plus your action plan for completing the inspection. Also include your plan for completing the overdue inspections.

Waste Section:

There are currently no overdue inspections.

Question #14

Please provide the number of reciprocity licensees that were candidates for inspection per year as described in IMC 1220 and indicate the number of reciprocity inspections of candidate licensees that were completed each year during the review period.

Waste Section:

N/A

Question #15

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

Waste Section:

The Waste Section procedures WMS 312, Risk-Significant Radioactive Material Inspection, and WMS 320, Inspection of U-Mills Reclamation & Construction Projects were revised 2020 and 2018 respectively.

WMS 312 Rev 2, October 2020:

- Due to new regulation, change references to “Increased Controls (ICs)” to “Risk Significant Radioactive Material (RSRM)” and WAC 246-237.
- Delete references to IC Orders and IC requirements due to new WAC 246-237.
- Add guidance that is based on 10CFR37, the federal equivalent of WAC 246-237.
- Update inspection checklist to refer to WAC 246-237.

WMS 320 Rev 3, May 2018:

- Various editorial changes and reference updates.
- Expanded discussion of confirmatory surveys.
- Added NUREG 1757 information
- Added Routine Field Inspection Form

Question #16

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

<u>Inspector</u>	<u>License Category</u>
<u>2018</u>	
Siebert	LLRW
Rogers	Waste Processor
Stasney	U-Mill
<u>2019</u>	
Siebert	LLRW
Rogers	Waste Processor
Stasney	U-Mill
<u>2020*</u>	
Rogers	Waste Processor (remote inspection and remote accompaniment; unable to travel due to state imposed Covid-19 travel restrictions)
Stasney	U-Mill (remote accompaniment; unable to travel due to state imposed Covid-19 travel restrictions)
Siebert	LLRW. No accompaniment performed. Inspector was activated to the State's Covid-19 response from May 2020 – March 2021.
<u>2021</u>	
Rogers	Waste Processor. No accompaniment due to Covid-19 travel restrictions. The waste supervisor will accompany the inspector during first quarter of 2022.
Stasney	U-Mill. This inspection occurs once per year. The section supervisor intended on accompanying the inspector, though due to Covid-19 concerns at the facility the inspection was delayed, and the NRC performed their accompaniment during this inspection. The waste supervisor will accompany the inspector during first quarter of 2022.

Question #17

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

Waste Section:

- 1) Portable radiation detection instruments available: Instruments include: Eberline R0-2's, Ludlum Models 3 (hot dogs, pancake probes, and one walking stick), 9, 12s, and 19, Bicron uRem, Ludlum 2401-Ps, one FLIR identifier, and two sets of Ludlum meter 2241-3, with Ludlum pancake 44-9, Ludlum Alpha/Beta scintillator probe 43-93, and Ludlum NaI probe 44-10.
- 2) Method of Calibration: The Waste Management Section's instruments are sent directly to Ludlum for calibration. All instruments in use are currently in calibration.
- 3) Laboratory Capabilities: Environmental laboratory services are provided by the Washington State Public Health Laboratory, and the Iowa State Hygienic Laboratory.
- 4) There was a sufficient number of calibrated instruments available throughout the review period. Backup meters are also available from the Radioactive Materials Section and Radiological Emergency Response Section.

Question #18

How many specific radioactive material licenses does your program regulate at this time?

Waste Section:

The Waste Section currently has five licensees, and issues seven licenses. Two (LLRW and Mixed Waste) to Perma-Fix Northwest (PFNW) radioactive waste processor, one to US Ecology, Inc. (USE) for low-level radioactive waste disposal, one to Dawn Mining Company (DMC) (uranium millsite), one to Arwen (inactive mineral processor site), and two to ChemTrade (one inactive mineral processing facilities, one active mineral processing facility).

Question #19

Please identify any major, unusual, or complex licenses which were issued, received a major amendment, were terminated, decommissioned, submitted a bankruptcy notification or renewed in this period.

Waste Section:

US Ecology - Washington, Inc., WN-I019-2 (Low-Level Radioactive Waste Site)

- Notice of Timely Renewal for Amendment 41 – December 20, 2018

Dawn Mining Company, WN-I043-2 (Uranium Mill)

- Amendment 31 – March 7, 2019 – license amended to remove occupational radiation exposure monitoring for Millsite workers.
- Amendment 32 – February 5, 2020 – renewal.
- Amendment 33 – April 8, 2020 – license administratively amended to change the annual due date for DMC's submittal of updated closure costs from March 31 to November 1 to be consistent with the submittal due date for the Integrated Project Schedule.
- Amendment 34 – June 4, 2020 – license amended to reflect personnel change for the DMC Millsite Radiation Safety Officer (RSO).

Perma-Fix Northwest, WN-I0393-1 (Low-Level Radioactive Waste Processor)

- Amendment 45 – May 17, 2018, license amended to add Rev. 5 of Emergency Plan dated 4/17/18.
- Amendment 46 – November 6, 2019, license amended to add Rev. 14 of Low Level Operations Manual dated 11/06/19 and Rev. 06 of Emergency Plan dated 11/06/19. In addition, License Condition 52D was updated.
- Amendment 47 – February 16, 2021, license amended to increase the maximum possession limit for Tritium (H-3) in License Condition 6-8. G, add Rev. 15 of Low Level Operations Manual dated 2/16/21 and add Rev. 09 of LL/MWOP 102, Revisions to Operational Procedure dated 2/16/21.
- Amendment 48 – April 12, 2021, License Condition 13 was amended to change the Radiation Safety Officer.

Perma-Fix Northwest, WN-I0508-1 (Mixed Waste Processor)

- Amendment 40 - May 17, 2018, license amended to add Rev. 08 dated 4/17/18 of the Mixed Waste Operations Manual and Rev. 5 of Emergency Plan dated 4/17/18.
- Amendment 41 – September 12, 2018, license amended to add Air Emissions License for GeoMelt in License Condition 50.
- Amendment 42 – January 15, 2021, license amended to add Rev 09 of Mixed Waste Operations Manual dated 1/3/20, effective date of 1/15/20 and update License Condition 45. D,
- Amendment 43 – February 16, 2021, license amended to add Rev. 09 of LL/MWOP 102 Revisions to Operational Procedures dated 2/16/21.
- Amendment 44 - April 12, 2021, License Condition 13 was amended to change the Radiation Safety Officer.

Question #20

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

WASTE SECTION: US ECOLOGY LICENSE VARIANCES REQUESTED 5/2018-11/2021

ACTION #	DATE REC'D	COMPANY	SUBJECT
V-02-18	08/13/18	US Ecology	Temporarily remove settlement plates from Trench 16 (LC 73)
V-02-19	05/21/19	US Ecology	Extension to Environmental Monitoring Report submittal date (LC 72)
V-02-19-R	06/27/19	US Ecology	Extension to Environmental Monitoring Report submittal date (LC 72)
V-01-20	03/12/20	US Ecology	Request to stop onsite Vendor reviews due to Covid -19 pandemic. Approved request until 5/31/2020 (FSM 3.4/ROP 110)
V-03-20	04/20/20	US Ecology	Temporarily remove settlement plates from Trench 14 (LC 73)
V-03-20 Extension	11/12/20	US Ecology	Extension to V-03-20: Temporarily remove settlement plates from Trench 14 (LC 73)
V-09-20	11/11/20	US Ecology	Requested variance to Specific Approval V-08-20. Waste already packaged and not packaged in accordance with V-08-20.
V-11-20	11/16/20	US Ecology	Request to stop onsite Vendor reviews due to Covid -19 pandemic. Approved request until 12/31/2020 (FSM 3.4/ROP 110)
V-02-21	02/04/21	US Ecology	Request to stop onsite Vendor audit due to Covid -19 pandemic. Approved request until 3/31/2021 (FSM 3.4/ROP 110)
V-05-21	05/04/21	US Ecology	Extension to Environmental Monitoring Report submittal date (LC 72)

WASTE SECTION: PERMA-FIX NORTHWEST LL AND MW LICENSE VARIANCES REQUESTED 5/2018-11/2021

ACTION #	DATE REC'D	COMPANY	SUBJECT
PV-18-02	05/08/18	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-18-03	08/13/18	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-18-03 Extension	10/04/18	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-19-01	01/22/19	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-19-01 Extension	05/08/19	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-19-02	07/01/19	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-19-04	09/03/19	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-19-05	09/18/19	PFNW/ WN-I0508-1	Temporarily increase activity of atomic numbers 84-103, except Special Nuclear Material and source material. (LC 8.D)
PV-20-01	02/04/20	PFNW/ WN-I0508-1	Temporarily increase activity of atomic numbers 84-103, except Special Nuclear Material and source material. (LC 8.D)
PV-20-02	03/19/20	PFNW/ WN-I0508-1	Temporarily increase activity of atomic numbers 84-103, except Special Nuclear Material and source material. (LC 8.D)
PV-20-03	03/24/20	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-20-04	06/24/20	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-20-05	10/13/20	PFNW/ WN-I0393-1	Temporary adjustment of staffing levels in LL Thermal (LC 15 and LLOM 1.2.4.2)
PV-21-01	02/08/21	PFNW/ WN-I0393-1	Temporary extension of onsite storage LC. 39.A
PV-21-02	03/03/21	PFNW/ WN-I0393-1	Temporarily increase activity of tritium. (LC 8.G)

WASTE SECTION: DAWN MINING COMPANY VARIANCES REQUESTED 5/2018-11/2021

ACTION #	DATE REC'D	COMPANY	SUBJECT
	04/21/20	DMC	DMC's request to combine 1Q2020 and 2Q2020 radon measurements into a single measurement due to COVID-19 restrictions imposed on the Radnova Lab in Illinois. This resulted in not all environmental samples being collected per the Site-Wide SAP (which is referenced in license).
	11/11/20	DMC	Variance to DMC's operating procedures between November 16 through December 1, 2020 during which time the millsite RST was out of WA state and in quarantine for COVID-19.
	08/05/21	DMC	DMC's suspension of monitoring during the 3Q2018 and 3Q2021 due to high fire danger. This resulted in not all environmental samples being collected per the Site-Wide SAP (which is referenced in license).
	09/14/21	DMC	Variance to DMC's operating procedures to allow shut-down of the northern portion of the EP-6 perimeter security system between November 15 and 21, 2021 (for equipment access to EP-6).

Question #21

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

Waste Section:

The Waste Section procedures WMS 201, Licensing Procedure was revised in 2018 and 2019; WMS 202 Risk-Significant Radioactive Material Licensing was revised in 2019.

WMS 201 Rev 4, December 2018:

- Change was necessary to comply with NRC Compatibility Category C requirements for:
 - RCPD-17-007 Risk-Significant Radioactive Material Checklist and Guidance
 - RCPD-18 005 NRC Pre-Licensing Guidance Checklist
- Major update to revise WMS 202, RSRM Licensing procedure, Rev 3, included (RCPD-17-007) updating the Implement the Risk-Significant Radioactive Material Checklist and Guidance
- Major update to revise WMS 201, Licensing procedure, Pre-Licensing Guidance (RCPD-18-005) requires new implementation of pre-licensing guidance enhancements, implementation and site visits
- Updated address for Office of Radiation Protection to reflect the departments new location on applicable attachments
- Attachment 14 includes instructions and pre-licensing checklist
- Editorial Changes

WMS 201 Rev 5, June 2019:

- Change was necessary to comply with NRC Compatibility Category C requirements for:
 - PRE-LICENSING GUIDANCE, Checklist to Provide a Basis for Confidence that Radioactive Materials Will be Used as Specified on the Application (Revised 01/29/19)
 - Attachment 14, NRC revised, steps 3-5, the change was significant enough to warrant updating the attachment and revising the procedure.

WMS 202 Rev 4, June 2019

- Change necessary to comply with NRC Compatibility Category C requirements for:
 - Attachment 1. December 13, 2018, *Request to Implement the Risk-Significant Radioactive Material Checklist and Guidance RCPD-18-011.*
- Editorial changes, reference updated

Question #22

Identify by licensee name and license number any renewal applications that have been pending for one year or more. Please indicate why these reviews have been delayed and describe your action plan to reduce the backlog.

US Ecology – Washington, WN-I019-2

The US Ecology license has been in Timely Renewal since December 20, 2018. The US Ecology site is an active low-level radioactive waste disposal facility, receiving approximately 15,000 - 20,000 cubic feet of waste annually. The review of the license renewal application is thorough and entails the review of all low-level radioactive waste site governing licensing documents, regulatory guidance documents and regulations, as well as a complete review of the licensee's governing documents and operating procedures. The review was delayed due to the transition from 100% office work to work-from-home in March of 2020 due to the Covid-19 pandemic. Once we were allowed in the office for short periods of time, the program lead reviewing the license transitioned to supporting the State's Covid-19 response full time (from May of 2020 through February 28, 2021). Upon return to the section, we moved from our office space that provided the section high-density file space and staff cubicles, to a location that does not offer devoted staff space or space for section files. All of the section files, records, and staff cubicle records were placed in boxes. At this current time, all section files and records still remain in boxes as we do not have a file location to unpack them. In May of 2021 another staff took over the lead position of the US Ecology facility and devoted a substantial amount of time locating all the license renewal documents. Currently, the department has completed its review and the license application is in the final stages of drafting. We anticipate the draft license will be completed by the end of 2021 and issued in early 2022.

Question #23

For Agreement States, please provide a list of any reportable incidents not previously submitted to NRC (See Procedure SA-300, *Reporting Material Events*, for additional guidance, OMB clearance number 3150-0178). The list should be in the following format:

Waste Section:

All reportable incidents have been submitted to the NRC.

Question #24

Identify any changes to your procedures for responding to incidents and allegations that occurred during the period of this review.

Waste Section:

There have been no changes to the Waste Section's incident or allegations procedures: