

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
QUESTIONNAIRE

Common Performance Indicators, SS&D, and Regulations

Name of State: Washington

Reporting Period: May 11, 2013 to May 4, 2018 is the IMPEP review period, however the reporting period for this questionnaire will end March 31, 2017.

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

1. 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.

Previous recommendation:

The review team recommends that the State implement a process to ensure that radioactive material incidents involving sealed sources and devices registered by the State are periodically and independently assessed for generic issues and that any potential generic issues are communicated to licensees and fellow regulators in a timely manner.

Response:

We amended our Radioactive Materials license to include the following license condition: "The licensee shall perform semi-annual reviews of the Nuclear Materials Events Database to identify problems with any sealed source or device for which Washington State has issued a safety evaluation." These reviews are conducted every January and July.

B. COMMON PERFORMANCE INDICATORS

I. Technical Staffing and Training

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.

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; Organizational charts are attached to this questionnaire as a PDF file.
- (b) A chart showing positions of the radiation control program, including management; and Organizational charts are attached to this questionnaire as a 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 (SS&D) evaluation, low-level radioactive waste (LLRW) and uranium recovery programs are included on the Office of Radiation Protection organizational chart. SS&D program resides in the Radioactive Materials section. LLRW and uranium recovery (U-mills) reside in the Waste Management section.

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 headings should be:

<u>Name</u>	<u>Position</u>	<u>Area of Effort</u>	<u>FTE%</u>
Steve Matthews	Radiation Health Physicist 4	Section Manager	100
Curt DeMaris	Radiation Health Physicist 3	Medical Program Manager	100
Andrew Halloran	Radiation Health Physicist 3	Laboratory Program Manager	100
Tristan Hay	Radiation Health Physicist 3	Industrial Program Manager	100
Pamela Walsh	Radiation Health Physicist 2	Industrial Inspector/Reciprocity	100
James Killingbeck	Radiation Health Physicist 2	Inspector	100
Raj Maharjan	Radiation Health Physicist 2	Inspector	100
Morgan Munera	Radiation Health Physicist 2	Inspector/General Licensing	100

Jonathan Napier	Radiation Health Physicist 2	Inspector	100
Tanner Depert	Administrative Assistant 3	Administrative	100
Vacant	Database Manager	Administrative	100

All technical staff conduct inspections, and license writing and reviews.

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.

Tristan Hay was hired 1 March 2014. Tristan has a PhD in Radiation Health Physics and a MS in Radiation Health Physics. Tristan has over 10 years of Health Physics experience. Prior to coming to the State of Washington Tristan worked for Pacific Northwest National Laboratory where he worked on Health Physics research and Licensing of Nuclear Power Plants in the US.

Andrew Halloran was hired 1 September 2015. Andrew has an MS in Medical and Health Physics and is working towards becoming a Certified Health Physicist (CHP), having taken and passed CHP Part 1 exam in 2014. He has also taken a broad scope RSO training course through Dade Moeller and Thomas Edison State University. Prior to coming to DOH Andrew worked for 3 years in medical and academic health physics.

Raj Maharjan was hired 16 October 2016. Raj has a Master's Degree in Health Physics from East Carolina University and Master's Degree in Physics from Tribhuvan University. Prior to coming to DOH, Raj has worked as EHS Practitioner (Radiation Safety Specialist) at East Carolina University for 4 years. Raj has passed NRRPT and Part I portion of ABHP exam.

Morgan Munera was hired on 1 December 2016. Morgan has Bachelors of Science in Radiological Health Engineering. Morgan has 2 years of experience working with nuclear and radioactive material regulations. Prior to coming to the State of Washington, Morgan worked for the International Atomic Energy Agency in Vienna, Austria for the nuclear power infrastructure division.

Janathan Napier was hired on 1 March 2018. He has PhD in Radiation Health Physics from Oregon State University. He was working as Health Physicist in Lawrence Livermore National Laboratory since June 2016 before coming to DOH. He has also worked as Graduate Research Assistant at Oregon State University from January 2011 through June 2016. He has passed Part I portion of ABHP exam.

Shraddha Rane was hired on September 1st. 2015. Shraddha has a Masters Degree in Physics and a Masters in Health Physics from Iowa State University.

Shannon Sawyer was hired on March 16th, 2017. She has a Masters Degree in Medical Health Physics. Hired to work in Waste Management and Radioactive Materials.

5. 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.

Steve Matthews	No licensing for Pharmacy
Curt DeMaris	Qualified for all
Tristan Hay	Qualified for all but Well Logging.
Andy Halloran	Qualified for all but Well Logging.
James Killingbeck	No licensing or inspection for Gamma Knife, Broad Scope, or M&D; No licensing for Well Logging
Raj Maharjan	No licensing or inspection for Gamma Knife, Broad Scope, M&D, or Well Logging. Complete in the next 12-15 months.
Morgan Munera	No licensing or inspection for Gamma Knife, M&D, or Well Logging. Complete in the next 15-18 months.
Jonathan Napier	New hire; Qualified on Portable Gauge inspection only. Working on all others except Well Logging. Complete in about 30 months. Attending NRC schools as accepted (so far S-201)
Pamela Walsh	No licensing or inspection for Broad Scope, M&D, or Pharmacy; No licensing for Gamma Knife/HDR or Well Logging

Technical staff are signed off as needed for one or more specific programs (Medical, Labs or Industrial), but eventually for all types of licenses.

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

No changes occurred during the review period.

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

Six **technical staff** left during the review period:

Craig Lawrence, the Radioactive Materials Section Supervisor, retired on 6 July 2017,
Anine Grumbles, Laboratory Program Manager, retired on 3 October 2017,
Victoria Dix, RHP2, resigned on 21 October 2017,

Shannon Sawyer, RHP2, resigned on May 10th, 2017 (hired to work in Waste & Radioactive Materials),
Shraddha Rane, RHP2, resigned on 31 October, 2015, and
Jennifer Serne, RHP2, resigned on 2 January 2015.

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.

The Radioactive Materials Section Manager position was vacated 1 July 2017 when Craig Lawrence retired. The Section Manager position was temporarily filled by Curt DeMaris as 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.

The Industrial Program Manager position was temporarily filled by Tristan Hay starting 16 November 2017 until it was permanently filled on 1 January 2018 by Tristan Hay. Tristan Hays' previous position as Health Physicist 2 was transferred to the X-ray section.

While Curt Demaris filled in as the Radioactive Materials Section Manager, Tristan Hay temporarily filled the Medical Program Manager position starting 1 July 2017 until November 16, 2017, when Curt returned to Medical Program Manager.

The Laboratory Program Manager, Anine Grumbles, retired on 31 October 2017. This position was temporarily filled by Andy Halloran until January 1, 2018, when Andy filled the position on a permanent basis.

Andy's former HP2 position was vacant from November 1, 2017 until March 1, 2018 when it was filled by Jon Napier, PhD.

Victoria Dix, an HP2, resigned on October 20th, 2017. Her position was filled on February 16, 2018, by Morgan Munera, promoting from an HP1 position. Morgan's former HP1 position is being reallocated to a data base manager for the Radioactive Materials Section. This position is intended to be filled within the next 1-2 months. Currently this is the only vacant position in the Radioactive Materials Section.

Our former Administrative Assistant 3, Joy Redman, retired on January 16th, 2016 and left a vacancy for 1 month until filled by Tanner Depert, AA3, on February 16th, 2016.

Each time these positions were vacant, the positions were filled in accordance with Washington State Department of Health recruitment and hiring procedures. Our Office advertised the technical positions with the National Health Physics Society and the Conference of Radiation Control Program Directors.

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.**

The Office of Radiation Protection does not have an oversight board. Direction comes from upper management and the state legislature.

II. Status of Materials Inspection Program

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.**

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

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.**

<u>Timeframe</u>	<u>Priority 1</u>	<u>Priority 2</u>	<u>Priority 3</u>	<u>Initial Inspections</u>
5/11/2013 - 5/10/2014	6	20	71	5
5/11/2014 - 5/10/2015	19	20	55	4
5/11/2015 - 5/10/2016	19	18	57	5
5/11/2016 - 5/10/2017	12	7	45	4
5/11/2017 - 3/31/2018	13	11	51	4
Total	69	76	279	22

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.**

At a minimum, the list should include the following information for each inspection that was conducted overdue during the review period:

- (1) Licensee Name
- (2) License Number
- (3) Priority (IMC 2800)
- (4) Last inspection date or license issuance date, if initial inspection
- (5) Date Due
- (6) Date Performed
- (7) Amount of Time Overdue
- (8) Date inspection findings issued

There are no inspections that were conducted overdue by NRC IMC 2800 standards.

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.**

There are no inspections currently overdue by NRC IMC 2800 standards.

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.**

Year	Count	# Inspected	% Inspected
2013	24	8	33
2014	32	15	47
2015	28	6	21
2016	28	7	25
2017	31	2	6
2018	1	0	0

III. Technical Quality of Inspections

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

- 1. The inspection criteria for licensees that possess category 1 or category 2 quantities of radioactive materials was changed to align with WAC 246-237/10 CFR Part 37.

2. Inspection frequencies for all licensees possessing category 1 or category 2 quantities of radioactive materials was increased to at least every two years.

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

Inspector	Supervisor/lead	Total for period: May 2013 - April 2018
Craig Lawrence	N/A	N/A
Steve Matthews	CL, PW, AH	5
Curt DeMaris	CL, TH	4
Tristan Hay	CD, CL, AG	8
Andy Halloran	AG, CD, SM, CL	6
Jim Killingbeck	CL, SM	2
Pamela Walsh	AG, CL	4
Raj Maharjan	CL, SM, CD, TH	5
Morgan Munera	SM, TH	4
Anine Grumbles	CL	1
Vicky Dix	CL, SM	4
Jennifer Serne	AG	2
Shraddha Rane	AG	1
Jeff Kulp	CD, CL	3

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?**

We have ion chambers, NaI probes, GM detectors, scintillation detectors, and a neutron meter. Most meters are calibrated by either the University of Washington or Swedish Medical Center, both of which are broad scope licensees with approved commercial calibration programs. There have been no changes in their procedures or capabilities since prior to the last IMPEP. Meters that need repair or cannot be calibrated by UW or Swedish 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 ARSOs 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.

IV. Technical Quality of Licensing Actions

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

Active: 327.

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.

- Westinghouse Richland Service Center (I0252) – The parent company filed a bankruptcy notification. The licensee's financial surety instrument was called/drawn and the funds are currently in a standby trust account. We are in regular communication with the licensee regarding their routine operations and the pending sale and transfer of control.
- C.J. Bruyn and Company (I0523) – The licensee was cited for several items during a routine inspection in January 2016 and chose to terminate rather than implement corrective actions. Termination is pending due to decommissioning efforts based on records of contamination found onsite and an investigation into potential illegal disposal methods for lab waste, liquid scintillation fluid, and foil sources.
- Intellectual Ventures Property Holdings LLC (L0250) – A new license issued to a laboratory working in nuclear power research and development. We are currently working with the licensee on licensing a research facility for studying reactor components and uranium salt matrices.
- There was one complex termination, Advanced Medical Isotopes Corporation in Kennewick (WN-M0292-1) - This was a licensee who used a linear accelerator to produce PET nuclides for a period of time. While they terminated actual production long before, the termination took well over a year due to the litigious nature of the less-than-cooperative owners of the license. Eventually, when every legal avenue was finally and completely exhausted, the accelerator was properly transferred, sources transferred to the state, the site decommissioned, and the license terminated.

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

Only one licensee has a variance: Mistras (IR011). The licensee has been given a variance to WAC-246-243-160 requiring radiographer supervision as it refers to the physical survey of the boundary area in WAC 246-243-190(4). Assistant radiographers that have completed the assistant radiography training program listed in the license application plus 320 hours of on-the-job training may work without a Certified Radiographer's personal supervision for radiographic operations described in WAC 246-243-190(4) where they take place between concrete floors.

21. 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 for different medical uses of radioactive materials as they have appeared since the last IMPEP, as well as conditions for the new regulations in chapter 246-237 WAC and NSTS reporting. Additionally, we have updated our policies for licensing action requests via email to match the NRC policy and establish timeline goals and documentation requirements for renewals. We have also established procedures for reviewing and approving proposed RSOs for specific and broad scope licenses.

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.

Currently there are no license renewals that have been pending for a year or more. During the review period there were five renewals that took longer than a year to complete:

- (I064) BP West Coast Products 3/3/16 to 7/13/17 (Vicky Dix)
- (I0526) Lakeridge Paving 2/29/16 to 8/2/17 (Vicky Dix)
- (L0144-2) Radiation Service & Support 1/30/13 to 10/8/14 (Vicky Dix)
- (L0148) Lab Performance Specialist 12/24/12 to 9/4/14 (Anine Grumbles)
- (C003) WSU 5/31/12 to 4/30/14 (Anine Grumbles)

It is unknown why this happened, because Vicky and Anine are no longer working here. Section Supervisor (Craig Lawrence) was aware of the delay and was tracking the relicensing efforts.

The Radioactive Materials Section has a new office policy to curtail this. Our new office policy states that renewals have to be completed within 30 days, or notify the program manager. If a program manager is unable to make headway or if the program manager is the one conducting the renewal, the Section Manager must be notified.

V. Technical Quality of Incident and Allegation Activities

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:**

<u>Licensee Name</u>	<u>License #</u>	<u>Date of Incident/Report</u>	<u>Type of Incident</u>
----------------------	------------------	--------------------------------	-------------------------

None found. All reportable incidents have been reported to the NRC.

A spreadsheet listing all incidents & allegations since the 2013 IMPEP is available on DOH's network.

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

We have a policy of asking scrap yards not to call us unless they measure greater than twice background with a hand-held microR/hr meter on incoming shipments that set off their truck/rail alarms. We have informed them that a special DOT permit is not necessary for shipments of this nature returning to public highways.

C. **NON-COMMON PERFORMANCE INDICATORS**

I. Compatibility Requirements

25. **Please list all currently effective legislation that affects the radiation control program. Denote any legislation that was enacted or amended during the review period.**

Washington became an Agreement State on December 31, 1966. The Department is designated as the State's radiation control agency and implements the radiation control program. The effective statutory authority for control of radioactive materials is contained in RCW 70.98, "Nuclear Energy and Radiation," and RCW 70.121, "Mill Tailings – Licensing and Perpetual Care." The program is also affected by RCW 70.94, "Washington Clean Air Act."

During the review period, there was no legislation passed that affected the radiation control program.

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

date for your regulations.

Washington's radiation regulations are not subject to any "sunset" or equivalent laws.

- 27. 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.**

The Department reviewed the SRS sheet and found the information to be correct. NOTE: last line in the SRS table says 10 CFR Part 20.1003, Proposed ML 13122A287. The department noticed an error on Washington SRS sheet and asked for a correction. Please see Ms. Michelle Beardsley letter dated January 12, 2015 indicating the correction was made.

- 28. 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.**

The Department has adopted all NRC amendments into the applicable Washington Administrative Codes. We have drafted a new chapter compatible to 10 CFR 36. Washington State is current on all rule making activities.

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.

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.

II. 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:**

SS&D Manufacturer,

Registry Number Distributor or Custom User Product Type or Use Date Issued Type of Action

<u>Registry Number</u>	<u>Manufacturer</u>	<u>Distributor</u>	<u>Product</u>	<u>Type</u>	<u>Date Issued</u>	<u>Action</u>
WA-1220-S-101-S, Amendment 1	IsoRay	IsoRay	CS-1 & CS-1 High Activity (HA)	High Activity Sealed Source for Brachytherapy	17 October 2016	Amendment no.19 to WN-L0213
WA-1220-D-102-S, Amendment 2	IsoRay	IsoRay	To include Cs-131	High Activity Sealed Source for Brachytherapy	6 May 2014	Amendment no.17 to WN-L0213

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

Technical Staffing and Training - Questions 2-9

There are five Materials staff that have attended the SS&D Workshop. These are Curt DeMaris, Steve Matthews, Tristan Hay, Morgan Munera, and Raj Maharjan.

An application for evaluation would go to the applicable program lead (e.g., Medical, Industrial, Labs). The Lead would review and be assisted by technical staff. Upon completion, a review concurrence would be performed by the technical staff, another HP or supervisor.

Two SS&D amendments were conducted during the review period: IsoRay (L0213).

Technical Quality of Licensing Actions - Questions 18-22

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

II. Low-level Radioactive Waste Disposal Program – [See separate questionnaire](#)

31. Please include information on the following questions in Section A, as they apply to the Low-Level Radioactive Waste Disposal Program:

Technical Staffing and Training - Questions 2-9

Status of Materials Inspection Program - Questions 10-14
Technical Quality of Inspections - Questions 15-17
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

III. Uranium Recovery Program – [See separate questionnaire](#)

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

Technical Staffing and Training - Questions 2-9
Status of Materials Inspection Program - Questions 10-14
Technical Quality of Inspections - Questions 15-17
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

Attachments:
Appendix 1

Organizational Charts:

1. Governor down to Secretaries
2. EHP
3. ORP

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM
QUESTIONNAIRE

For LLRW and Uranium Recovery Indicators ONLY

Name of State: Washington

Reporting Period: May 11, 2013 – April 1, 2018

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

1. **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.**

Waste Section:

No open recommendations.

B. COMMON PERFORMANCE INDICATORS

(All-Responses Given Are for LLRW and Uranium Non-Common Performance Indicators III and IV)

I. Technical Staffing and Training

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;**

¹Estimated 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.

Provided in the Common Performance Indicator Questionnaire.

(b) A chart showing positions of the radiation control program, including management; and

Provided in the Common Performance Indicator Questionnaire.

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

Provided in the Common Performance Indicator Questionnaire.

- 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:**

LLRW

<u>Name</u>	<u>Position</u>	<u>Area of Effort</u>	<u>FTE%</u>
K. Schwab	HP4	Administration	30%
C. Rogers	HP3	Licensing/Compliance	10%
K. Siebert	HP-3	Licensing/Compliance	70%
G. Rosado	HP2	Licensing/Compliance	15%
S. Pachernegg	Engineer	Engineering	20%
B. Stasney	Geohydr.	Lic/Comp/Closure	3%

Uranium Recovery

<u>Name</u>	<u>Position</u>	<u>Area of Effort</u>	<u>FTE%</u>
K. Schwab	HP4	Administration	30%
K. Siebert	HP-3	Licensing/Compliance	15%
G. Rosado	HP2	Licensing/Compliance	5%
S. Pachernegg	Engineer	Engineering	60%
B. Stasney	Geohydr.	Lic/Comp/Closure	97%

Radioactive Waste Processor

<u>Name</u>	<u>Position</u>	<u>Area of Effort</u>	<u>FTE%</u>
K. Schwab	HP4	Administration	30%
C. Rogers	HP3	Licensing/Compliance	70%
K. Siebert	HP-3	Licensing/Compliance	10%
G. Rosado	HP2	Licensing/Compliance	20%
S. Pachernegg	Engineer	Engineering/ Comp.	10%

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:

Bryony Stasney was hired February 16, 2014. She has a B.S. in Geology and a M.S. in Hydrogeology, with 23 years' experience in the field of hydrogeology including public water system compliance, water resources development, contaminated lands cleanup, hydrogeologic characterization, watershed planning, municipal landfill siting, design, operations and closure. Bryony is a licensed Geologist and Hydrogeologist in WA.

Kevin Siebert was hired June 1, 2015. He has a B.S. in Radiation Protection, with 10 years' experience working in the radiation safety office of a broad scope licensee, and 14 years of Agreement State program experience in the radioactive materials area. Kevin is certified by the National Registry of Radiation Protection Technologists (NRRPT).

Cheryl Roger was hired February 1, 2017. She has a B.A. and a M.S. in Geology, with over 30 years of Agreement State program experience in both the radioactive materials and LLRW areas. Cheryl is a member of the American Institute of Professional Geologists (AIPG), Emeritus Member of North Central Chapter of Health Physics Society, and member of the Conference of Radiation Control Protection Directors (CRCPD).

Gregorio Rosado was rehired November 1, 2017. 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, and almost two years prior experience as an HP2 with the WA State, Office of Radiation Protection, Waste Management Section. Gregorio is a Registered Radiology Technologist (ARRT)(RT) and a certified Nuclear Medicine Technologist (NMTCB)(N).

Shannon Sawyer was hired March 16, 2017 and resigned May 10, 2017.

5. **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.**

Waste Section:

Sheila Pachernegg is the program engineer. She participates in radiation safety inspections with oversight, but does not perform independent licensing or compliance activities. She does, however, perform independent engineering inspections.

Gregorio Rosado was rehired November 1, 2017. Gregorio has completed the USNRC Licensing Procedures and Inspection Procedures courses, though prior to becoming a qualified reviewer or inspector he must satisfy the requirements of the Waste Management Sections Procedure WMS 102. It is anticipated Gregorio will be signed off as a lead inspector for US Ecology in 2018, and Dawn Mining Company and PermaFix Northwest in 2019. It is anticipated Gregorio will be signed off to perform independent licensing actions in 2019.

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 2014 and 2016.

WMS 102 Rev 2, June 30, 2014:

- Added requirement to complete a minimum of 24 hours of refresher training over a three year interval; added examples of relevant refresher training topics; added requirement to document refresher training.
- Various editorial changes.

WMS 102 Rev 3, May 23, 2016:

- Added a required reading list for new staff.
- Reduced number of required licensing actions, to be signed off to independently review licensing actions, from three to one.
- Added requirement of the program manager to write a memo to the section supervisor documenting a trainee's completion of the inspection training requirements and recommendation of this trainee to indecently perform inspections.
- Added requirements for approval to independently perform surveillances.
- Changed 24 hour refresher training requirement from every three years, to every two years.
- Various editorial changes.

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

Waste Section:

Dorothy Stoffel, HG4 (retired June 1, 2014)
Drew Thatcher, HP3 (resigned September 1, 2014)
Gregorio Rosado, HP2 (resigned September 5, 2014, since rehired)
John Riley, HG3 (retired May 21, 2015)
Kristen Schwab, HP3 (accepted new position December 15, 2016)
Mike Elsen, HP4 (Supervisor) (accepted new position May 1, 2017)
Shannon Sawyer, HP2 (hired March 16, 2017; resigned May 10, 2017)

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:

There are currently no vacancies in the Waste Section.

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.

II. Status of Materials Inspection Program

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.

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 10, 2013 (“routine” inspections are “slice-of-the-pie” modules of the Annual Radiation Safety inspection):

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

- 2013 – 4 routine; 8 surveillances
- 2014 – 3 routine; 8 surveillances
- 2015 – 6 routine; 3 surveillances
- 2016 – 5 routine; 4 surveillances
- 2017 – 6 routine
- 2018 – 1 routine; 1 surveillance

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

- 2013 – 1 routine; 11 engineering field inspections
- 2014 – 1 routine; 1 engineering field inspection
- 2015 – 1 routine; 13 engineering field inspections
- 2016 – 1 routine; 13 engineering field inspections
- 2017 – 1 routine; 23 engineering field inspections
- 2018 – 1 engineering field inspection

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

- 2013 – 5 routine; 8 surveillances
- 2014 – 5 routine; 5 surveillances
- 2015 – 6 routine; 5 surveillances
- 2016 – 5 routine; 2 surveillances
- 2017 – 4 routine; 1 surveillance
- 2018 – 1 routine; 1 surveillance

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.

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.

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

III. Technical Quality of Inspections

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

Waste Section:

The Waste Section procedures WMS 311, Surveillances, and WMS 320, Inspection of U-Mills Reclamation & Construction Projects were revised 2016 2017 respectively.

WMS 311 Rev 2, December 2016:

- Removed requirement to perform surveillances monthly and replaced with “as needed”.

WMS 320 Rev 2, January 2017:

- Various editorial changes.
- Expanded discussion of confirmatory surveys.

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

<u>Inspector</u>	<u>Supervisor</u>	<u>License Category</u>	<u>Date</u>
<u>2013</u>			
Schwab	Elsen	Waste Processor	10/13
Stoffel	Elsen	U-Mill	10/13
<u>2014</u>			
Schwab	Elsen	Waste Processor	10/14
<u>2015</u>			
Siebert	Elsen	LLRW	09/15
Schwab	Elsen	Waste Processor	10/15
<u>2016</u>			
Siebert	Elsen	LLRW	09/16
Schwab	Elsen	Waste Processor	10/16
Stasney	Elsen	U-Mill	10/16
<u>2017</u>			
Siebert	Schwab	LLRW	06/17
Rogers	Schwab	LLRW	09/17
Stasney	Schwab	U-Mill	10/17
Rogers	Schwab	Waste Processor	11/17

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:

In addition to the section's original inventory of instruments (which includes Eberline R0-2's and Ludlum Models 3, 9, and 19), the Waste Management Section purchased two set of new meters. Each set includes: Ludlum meter 2241-3, Ludlum pancake 44-9, Ludlum Alpha/Beta scintillator probe 43-93, Ludlum NaI probe 44-10 and an ICx identiFinder.

The Waste Management Section's instruments are sent directly to Ludlum for calibration. All instruments in use are currently in calibration. Backup meters are available for use, as well as meter's owned by the Materials and Emergency Response sections.

Environmental laboratory services are provided by the Washington State Public Health Laboratory, the Iowa State Hygienic Laboratory, and the Oak Ridge Associated Universities, Inc laboratory (ORAU).

IV. Technical Quality of Licensing Actions

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 Puglia Engineering (inactive mineral processor site), and two to General Chemical (inactive mineral processing facilities).

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.

US Ecology - Washington, Inc., WN-I019-2 (Waste Disposal Operator)

- Amendment 40 - February 12, 2014 - renewal.
- Amendment 41 - March 19, 2016 - license administratively amended to include a requirement for a source term database, and remove the Increased Controls license conditions.

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

- Amendment 27 - June 24, 2014 - renewal.
- Amendment 28 - March 22, 2017 - license amended to revise the construction dates for the Final Radon Barrier, the Tailings Disposal Area surface water diversion ditch, and require the annual submittal of financial tests and supporting documentation.
- Amendment 29 - August 10, 2017 - license amended to add a thorium-230 electroplated standard source.
- Amendment 30 - December 6, 2017 - license amended to revise the construction dates for the Final Radon Barrier erosion protection.

Perma-Fix Northwest, WN-I0393-1 (Low-level radioactive waste processor/broker)

- Amendment 39 - December 30, 2013 - license amended to reference revised Environmental Radiological Monitoring Plan and revised procedure revision due date.
- Amendment 40 - February 6, 2105 - license amended to remove DuPont sources and revise list of procedures requiring departmental approval prior to implementation.
- Amendment 41 - December 15, 2015 - license amended to increase activity of atomic numbers 84-103, except Special Nuclear Material and source material.
- Amendment 42 - March 19, 2016 - license administratively amended to remove the Increased Controls license conditions and add a notification requirement if the facility exceed 80% of the threshold values for Category 2 sources.
- Amendment 43 - February 16, 2017 - renewal.
- Amendment 44 - January 30, 2018 - license amended to reference revised Environmental Radiological Monitoring Plan.

Perma-Fix Northwest, WN-I0508-1 (Mixed waste processor/broker)

- Amendment 35 - December 30, 2013 - license amended to reference revised Environmental Radiological Monitoring Plan and revised procedure revision due date.
- Amendment 36 - February 6, 2105 - license amended to revise list of procedures requiring departmental approval prior to implementation.
- Amendment 37 - March 19, 2016 - license administratively amended to remove the Increased Controls license conditions and add a notification requirement if the facility exceed 80% of the threshold values for Category 2 sources.
- Amendment 38 - February 14, 2017 - renewal.
- Amendment 39 - January 30, 2018 - license amended to reference revised Environmental Radiological Monitoring PI

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 2013-2018

ACTION #	DATE REC'D	COMPANY	SUBJECT	APPROVED (Yes or No)
V-5-14	3/26/14	Dawn Mining Company	Request to dispose of uranium and radium waste water residual in a super sack (specific approval required by LC 22)	Yes

V-5-14 revised	5/8/14	Dawn Mining Company	Revised previous request to add additional super sacks and limited quantity material. (specific approval required by LC 22)	Yes
V-1-15	2/5/15	Westinghouse	Dispose Class A unstable waste with > 15% void space (variance from LC 23)	Yes
V-4-15	8/26/15	US Ecology	Request to store waste above ground for greater than 90 days (variance from LC 52)	Yes
V-1-17	2/2/17 & 6/12/17	US Ecology	Request to allow an engineered concrete barrier (ECB) to be used as a package. (variance to EB-02 ECB Certificate of Compliance)	Yes
V-1-18	1/25/18	US Ecology	Request changes to CFUP disposal unit construction requirements and order of trench construction. (variance to LC 67)	Yes

WASTE SECTION: PERMA-FIX NORTHWEST MW and LLW LICENSE VARIANCES REQUESTED 2013-2018

ACTION	DATE REC'D	COMPANY	SUBJECT	APPROVED (Yes or No)
PV-16-06 WN-I0393-1	5/19/16	University of Washington	Request to thermally process 3 Ni-63 sources in excess of 100 microcuries. (specific approval required by LC 18 of WN-I0393-1)	Yes
PV-16-20 WN-I0508-1	10/21/16	PFNW	Request to temporarily increase activity of atomic numbers 84-103, except Special Nuclear Material and source material. (variance to Item 8.D of WN-I0508-1)	Yes
PV-17-04 WN-I0393-1	7/10/17	PFNW	Request to temporarily increase activity of atomic numbers 84-103, except Special Nuclear Material and source material. (variance to Item 8.D of WN-I0393-1)	Yes
PV-18-01 WN-I0393-1	1/24/18	PFNW	Request for variance to facility staffing requirements. (variance to LC 15 of WN-I0393-1)	Yes

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 procedure WMS 201, Licensing Procedure, was revised in 2016.

WMS 201 Rev 3, December 2016:

- Various editorial changes.

- 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.**

Waste Section:

There are no licenses that have been pending for renewal for a period greater than one year.

V. Technical Quality of Incident and Allegation Activities

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.

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

Waste Section:

The Waste Section procedure WMS 105, Incident Investigation, was revised in 2016.

WMS 105 Rev 2, November 2016:

- Various editorial changes.
- Added a recommendation to include the incident number to report.
- Added a recommendation to review corrective action effectiveness during future inspections.

C. NON-COMMON PERFORMANCE INDICATORS

I. Compatibility Requirements

25. **Please list all currently effective legislation that affects the radiation control program. Denote any legislation that was enacted or amended during the review period.**
26. **Are your regulations subject to a "Sunset" or equivalent law? If so, explain and include the next expiration date for your regulations.**
27. **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.**

28. **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.**

II. 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:**

<u>SS&D Registry Number</u>	<u>Manufacturer, Distributor or Custom User</u>	<u>Product Type or Use</u>	<u>Date Issued</u>	<u>Type of Action</u>
-----------------------------------------	---------------------------------------------------------	--------------------------------	------------------------	---------------------------

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

Technical Staffing and Training - Questions 2-9
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

III. Low-level Radioactive Waste Disposal Program – [See answers above LLRW disposal program](#)

31. **Please include information on the following questions in Section A, as they apply to the Low-Level Radioactive Waste Disposal Program:**

Technical Staffing and Training - Questions 2-9
Status of Materials Inspection Program - Questions 10-14
Technical Quality of Inspections - Questions 15-17
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

IV. Uranium Recovery Program – [See answers above for Uranium Recovery program](#)

32. **Please include information on the following questions in Section A, as they apply to the Uranium Recovery Program:**

Technical Staffing and Training - Questions 2-9