

Radiation Advisory Committee Meeting

October 16, 2024

Hybrid Meeting

Attending:

Radiation Advisory Committee Members

Alicia Zambelli – Veterinarian & Co-owner of Fern Hill Veterinary Care in Happy Valley

Barbara Smith – Portland Community College Instructor in Radiologic Technology, Retired

Mandy Henrikson – COO of Palm Beach Tanning

Dennis Wood – Medical Physicist at Bay Area Hospital, Coos Bay

Robert Berry – Nuclear Medicine Lead & Radiation Safety Officer at Providence Portland Medical Center and East Portland

Radiation Protection Services Staff

David Howe – Program Director

Todd Carpenter – Licensing and Emergency Preparedness Manager

Hillary Haskins – Operations and Emergency Response Manager

Brent Herring – Lead X-ray Inspector, Health Physicist

Alex Parker – Tanning Program Administrative Specialist

Rama Wusirika – Inspector, Health Physicist

Patty Thompson – Section Administrative Specialist and Staff Support

Tom Mynes – Inspector, Health Physicist

Lee Lind – Radioactive Materials Licensing Administrative Specialist

Rich Patterson – Inspector, Health Physicist

Tom Pfahler – Inspector, Health Physicist

Toby Irving – Inspector, Health Physicist

Michelle Martin – Inspector, Health Physicist

Sarah Brodesser – Inspector, Health Physicist

Guests

Thomas King – Oregon Board of Medical Imaging

Linda Kihs – Oregon Dental Assistants Association

Catherine Hess – Oregon Health and Science University, Radiation Safety Officer

Mechele Livran – Palm Beach Tanning

Matt Amen – Legacy Health, Radiation Safety Officer

Approval of the Minutes from June 12, 2024 – Barb Smith

Motioned by Bob Berry

Seconded by Alicia Zambelli

Minutes approved.

RAC Member Nomination for 2025-2028 Term – David Howe

Bylaws state a member can serve two full terms. There are eight members on the Committee.

Two members terms will end this year. Mandy Henrikson, representing the tanning industry, has served two full terms. Saulo Sousa Melo has served a partial replacement term from April 2023 to December 2024. Dr. Sousa Melo is eligible to serve another term and has expressed interest in continuing a second term.

Mechele Livran is the candidate to represent the tanning industry. Mechele is the Director of Retail Operations with Palm Beach Tan. She has 15 years of experience in the tanning industry and executing Oregon Administrative Rules.

Nominated by Mandy Henrikson, seconded by Bob Berry. Nomination approved.

Saulo Sousa Melo is the candidate for the dental industry. He is an associate professor at OHSU Dental School. He is a Dental Radiologist with a Masters in Oral Science and Oral/Maxillofacial Radiology. Nominated by Bob Berry, seconded by Alicia Zambelli. Nomination approved.

Mechele Livran and Saulo Sousa Melo will be forwarded for approval to the Oregon Health Authority Directors' office.

Nomination of Chairperson for a two-year term

Barb Smith nominated Bob Berry, Mandy Henrikson seconded. Nomination approved.

Nomination of Vice Chairperson for two-year term

Bob Berry nominated Alicia Zambelli, Mandy Henrikson seconded. Nomination approved.

RPS Program Updates

2024 RPS Budget – Todd Carpenter



**RPS EXPENSE SUMMARY
AS OF AUGUST 31, 2024**

Grant No	Grant Title	Beginning Balance	Revenue AY25/Budget	Accrued Revenue	Expenditure	Remaining Balance
480382-25	RPS Grain Analysis Lab Fee	(39.29)	12,474.00	-	5,529.16	6,905.55
480425-25	RPS X-Ray Registration Fee	2,208.79	3,189,551.63		2,752,114.34	439,646.08
480467-25	RPS Radioactive Materials License (RML)	1,370.20	1,274,865.70		1,389,746.99	(113,511.09)
480496-25	RPS Tanning Device Registration	187,728.95	186,868.79	1,620.00	200,769.80	173,827.94
480206-23	RPS DEQ School Disposal		1,921.95		2,827.26	(905.31)
480214-23	RPS DOE First Responder Training	(17,826.46)	25,000.18		7,173.72	-
480795-26	RPS ODOE 1st RESP/REC TRNG		37,074.87	-		37,074.87
480473-23	RPS Metro Rad Mat Disposal	70,353.17	(32,473.77)	-	37,900.49	(21.09)
480473-25	RPS Metro Rad Mat Disposal	-	50,873.84	-	(1,578.50)	52,452.34
480408-25	RPS ODOE Rad. Training (Internal)	35.42			2,331.23	
480408-28	RPS ODOE Rad. Training (Internal)	-	28,000.00	-	25,545.13	2,454.87
280568-22	RPS Mammography Fac Inspection PH22		533,322.48	-	533,322.48	-
280568-23	RPS Mammography Fac Inspection PH23	(82,086.74)	277,992.00	-	195,905.54	(0.28)
280568-24	RPS Mammography Fac Inspection PH24	82,086.74	294,680.00		48,887.52	327,879.22
280568-25	RPS Mammography Fac Inspection PH25				-	
		243,795	4,774,157	1,620	4,420,028	597,924
		-	1,105,994	-	778,116	327,879
	Total All Funds	243,795	5,880,151	1,620	5,198,144	925,803

There are two vacant Environmental Health Specialist 3 positions. These positions will remain unfilled, based upon recent financial projections. Funding for the vacant positions has been absorbed by the collective bargaining cost of living adjustments (COLA) and annual step increases.

Electronic/Tanning Inspection Update – Brent Herring

- Inspections since the last RAC meeting
 - 255 X-ray inspections (medical, dental, vet, therapy, MQSA and industrial)
 - 1003 machines
 - 1014 tubes
 - 17 Tanning inspections

- Most Common Violations Summary
 - X-Ray
 - Failure to register X-ray machines
 - Failure to meet X-ray machine Operator training requirements
 - Tanning
 - Tanning bed timers not checked annually
 - Tanning bed emergency shut-off not tested annually
 - Trained operator not being present during tanning sessions
 - Exposure schedules not available at the timer control
 - Skin type not determined or documented

Radioactive Material Licensing and Operations – Hillary Haskins

Radioactive material inspections June 1 to September 30, 2024

- 29 Inspections
- 54 Closed licensing actions

Incidents

- 11 Closed incidents
- 8 Open incidents remain

Licensing

- Tom Mynes and Tom Pfahler have been selected to be developed as technical licensing reviewers.

RPS Training Participation

- NRC Root Cause/Incident Investigation Workshop – Tom Mynes
- Organization of Agreement States (OAS) August Annual Meeting – David Howe
- FEMA Incident Command System 300 and 400 – Rich Patterson
- FEMA Radiological Emergency Response Operations – Tom Pfahler
- NRC Lab Fundamentals Health Physics Lab Activities – Sarah Brodesser
- NRC Environmental Monitoring & Air Sampling for Radioactivity Lab – Brent Herring
- Naval Reactor Compartment Disposal Shipment Inspection/Tour, Bremerton, WA – Tom Pfahler and Sarah Brodesser

RPS Database Update

- Transferring to a web-based database for inspection and licensing operations.
- Updating the inspections from focus models to the NRC guidance of risk models
 - A “focus model” primarily concentrates on achieving a specific goal or objective by directing attention to a narrow set of factors, while a “risk model” analyzes potential negative outcomes by evaluating various factors and probabilities to identify and prioritize risks across a broader spectrum; essentially, a focus model is about prioritizing a specific area while risk model is about comprehensively assessing potential threats across different aspects of a situation.
- Received iPads from PHD Health Security and Preparedness Response program to enhance RPS’s inspection program.

Interagency Agreement – Todd Carpenter

RPS has entered into an Intergovernmental Agreement (IGA) with the Portland Bureau of Emergency Management (PBEM) to have the All-Hazards Mobile Lab (AHML) and Trailer containing miscellaneous equipment to be shared resources (i.e., PBEM provide permanent secure storage in exchange for PBEM’s use as a Command Center). The AHML was most recently utilized during the pandemic to

screen and test citizens in outlying communities. The AHML/ trailer were previously parked at the Oregon Department of Transportation in Clackamas and is currently getting serviced prior to relocation at the PBEM storage site.

Exemptions/Rules/Statutes – Brent Herring

Year-to-Date number of Oregon Administrative Rule (OAR) Exemption Requests

- In 2024, the following exemption requests have been completed:
 - Adding 7 new fluoroscopy operators in veterinary facilities
 - Adding 4 veterinary facilities with Computed Tomography (CT) machines
Adding 12 new CT Operators
 - Use of a portable x-ray device as a fixed radiograph unit during the construction and equipment upgrade.
 - There are an additional 20 exemptions that are pending
 - Previous years exemptions processed: 2023 – 17 exemptions; 2022 – 10 exemptions
2021 – 2 exemptions; 2020 – 5 exemptions; 2019 – 10 exemptions; 2018 – 11
exemptions; 2017 – 5 exemptions

Exemption Request Proposal – Southeast X-ray

- Exemption request to allow an individual with no formal education to meet the requirements as a qualified expert as required in Oregon Administrative Rule for performing shielding studies and X-ray machine testing.
- Individual is currently approved in North Carolina, Utah, Minnesota, New Mexico and Arkansas
- North Carolina license specifically approves shielding studies and x-ray testing.
- Individual has experience and holds a Radiation Safety Officer certificate by completing a 40-hour training program.
- Per OAR's 333-106-0110 and 333-100-0005 the Authority may require a Licensee and/or Registrant to utilize the services of a "Qualified Expert" to determine the shielding requirements prior to the shielding plan review and approval.

A Qualified Expert must meet one of the following requirements:

- Board Certified in appropriate field or
- Master's Degree or higher in physics, biophysics, radiation physics, health/medical physics
 - 1 year documented, full time training in appropriate field
 - 1 year documented, full time work experience under qualified expert in appropriate field.
- Board members expressed concerns including:
 - 40 hours of RSO training is not enough education.
 - This would be for shielding analysis and design as directed by National Council on Radiation Protection and Measurements 147 (NCRP 147), which provides structural shielding design for medical x-ray imaging facilities, that needs to be followed by Health Physicists
 - Without more information it's hard to determine how well the individual is able to understand the NCRP 147 guidance
 - Motion made to recommend exemption denial from Dennis Wood, seconded by Bob Berry. Motion denied

Proposed Rule Changes – Todd Carpenter

- **OAR 333-119-0100 (4) Tanning Service Vendor**
Repeal "All persons hired for servicing and repair of tanning devices shall be State of Oregon licensed electricians".
- **OAR 333-106-0005 (108) Definitions**
"Supervision" means the supervising individual routinely reviews and monitors, or directs, the work being performed.
- **OAR 333-101-0025 Out-of-State Radiation Machines**
Repeal the statement (4) Notwithstanding sections (1), (2) and (3) of this rule, registered general licenses for out-of-state radioactive material under specific license may be brought into the state for use at temporary jobsites only under the provisions of OAR 333-102-0340.
- **OAR 333-106-0205 Fluoroscopic X-ray Systems Requirements: Activation of the Fluoroscopic Tube**
Add to rule "non-radiologist practitioners, who are physically present in the room during fluoroscopy use, are required to have Authority approved fluoroscopy training if the non-radiologist practitioner is operating a fluoroscopy machine or supervising a fluoroscopy operator (Radiologic Technologist)" ; and
- **Amend (4)(c)**
Rad tech....may operate fluoroscopic equipment under the personal or direct supervision of a radiologist or **personal supervision** of a non-radiologist practitioner who has....
- **OAR 333-123-0045 (2)(b)(F) Quality Assurance Program-Radiation Therapy**
Rule amendment request by Dr. Tom Mullen to update rule text due to this is an antiquated rule. It does not mesh with how things are done in the therapy field. "At a minimum, prior to the administration of the first radiation treatment, a Port film or Portal image must be taken to check that the radiation field is properly aligned to the intended treatment area. The Port film or Portal image must be viewed and evaluated, and the beam alignment approved by the Radiation Therapy Physician before radiation therapy commences. Thereafter, a weekly Port film or Portal image must be reviewed and signed by a Radiation Therapy Physician".
- **OAR 333-106-0325(2) Use of Rectangular Collimation**
Add the statement to rule "All rectangular collimators must be installed by an approved Oregon vendor".
- **OAR 333-119-0090(2)(c) Protection of Consumers**
Change rule reference from 333-119-0100(14) to 333-119-0100(12).
- **OAR 333-106-0325(2)(a) Intraoral Dental Radiographic Systems**
Add the term to the statement "at the minimum SSD, shall be containable in a circle or rectangular cone".
- Review of Division 123 Using Therapeutic Radiation Machines
 - * Review of current and emerging technology;
 - * Therapy requirements relating to general, direct, personal, supervision requirements when operating a therapy X-ray machine; and
 - * The use of electronic means to provide remote supervision.

Emerging Technologies – Brent Herring

Biology Guided Radiotherapy (BGRT)

- Combines Positron Emission Tomography and Computed Tomography (PET/CT) therapy into one machine.
- RPS consulted with Oregon Board of Medical Imaging (OBMI)
 - OBMI rule – requires the users to be licensed in X-ray operations and radiopharmaceutical administration (both modalities) to have one operator
 - Otherwise, registrant will need two operators (one for Nuclear Medicine and one for Therapy)
- Conference of Radiation Control Program Directors (CRCPD) is currently working on recommended rules to govern this dual modality machine operation.
- RAC guest Matt Amen, Legacy Hospital RSO, worked on first BGRT machine in Texas.
 - Radiopharmaceutical ordered by the nuclear medicine physician then patient injected by the nuclear technologist and patient then handed off to the radiation therapist.
 - The radiation oncologist wanted to perform all functions, but Texas rules prohibited.
 - The oncologist can do the order for radiation therapy, but not cannot order the radiopharmaceutical.

Physicians taking radiographs – Brent Herring

Current RPS X-Ray OAR 333-106-0055, General Requirement: X-ray Operator Training

- Operators must have training in radiation safety.
- Operator must be:
 - Oregon Board of Medical Imaging Licensees (Permanent or Limited X-ray Machine Operators (LXMO's)
 - X-ray Operator Students under supervision of licensed X-ray operator
- All other operators (Doctors)
- Must complete an Authority-approved radiation use and safety course
 - Authority approved training course topics are listed in RPS rule
 - Must have 100 hours or more of instruction in radiographic technology including:
 - Anatomy physiology, patient positioning, exposure and techniques; and
 - Appropriate types of x-ray exams that the operator will be performing; In addition the operator must:
 - Receive 200 hours or more of x-ray lab instruction and practice with energized x-ray unit
 - Learn Setting techniques
 - Practice positioning or diagnostic radiographic procedures
 - Demonstrate competency in safe use of x-ray equipment and procedures

RPS does not approve medical imaging school program and RPS does not have an approved x-ray curriculum.

Discussion:

The idea of RPS adopting OBMI procedures for x-ray operator approval of doctors was suggested. Could OBMI procedures be used as a guide, but not as a means to give OBMI operator permits?

- Current requests fall under OBMI Limited X-ray Machine Operator (LXMO) permit requirements
- Temporary (LXMO)
 - <https://www.oregon.gov/obmi/Documents/LXMO-Instruction-Manual-current.pdf>
 - <https://www.oregon.gov/obmi/lp/Pages/p-permit.aspx>

In response to the discussion, RAC meeting attendee Thomas King representing OBMI commented that licensed physicians are exempt from OBMI statues and rules under ORS 688.0435, therefore OMBI doesn't regulate physicians in that area. There are chiropractors that do complete X-ray training as a part of their formal education and are qualified to perform X-ray exposures. X-ray Operator training program curriculums that OBMI inspects all have approval from the Dept of Education.

Rulemaking Committee Requirements – Todd Carpenter

Department of Administrative Services (DAS) is requiring Rule Advisory to ensure community engagement (I.e., Boards) to provide increased input from affected communities and industries throughout the rulemaking process. Increasing transparency and engagement will help foster equity and reduce unintended impacts to people and communities experiencing historical and contemporary injustices and oppression. RPS intends to use the Radiation Advisory Committee for reviewing proposed rulemaking and then make a decision if a Rule Advisory Committee is needed.

Rectangular vs. Circular Collimation for Dental Intraoral X-ray Machines – Brent Herring

- An Information Bulletin (2024-03) was sent to Registrants
- Current use of rectangular collimators was approved under the following conditions:
 1. Due to the rectangular x-ray field being less than the circular x-ray field, a position indicating device (PID) must be used for each exam due to the high rate of x-ray cutoff from rectangular cones.
 2. Only an Oregon licensed vendor will be allowed to switch-out the cones, due to the potential of misalignment and resulting x-ray cutoff.
- There have been Registrant inquiries about the Information Bulletin concerning whether a rectangular collimator is mandatory. Switching from circular to rectangular collimation is optional (not mandatory). The option to use the rectangular collimator is available as long as a PID is used.

Emergency Preparedness/Response – Hillary Haskins

- Naval Reactor Compartment Disposal Shipment – Bremerton, Washington
 - U.S.S. City of Corpus Christi was decommissioned- follow up inspection and tour by Tom Pfahler and Sarah Brodesser
 - Final long-term disposal for the Reactor Compartment is the Hanford Site
- Personal Dosimetry (RadEyes) Acquisition for RPS field staff
 - Funded via PHD Health Security, Preparedness and Response (HSPR) program grant
- 2025-2026 Emergency Response HSPR Grant
 - Grant will be used for:
 - Replacement of linoleum flooring in the radioanalytical lab under the liquid nitrogen tank with cold resistant and impact resistant material

- Replace the High Purity Germanium (HPGe) Gamma Detector standard
- Replace the lithium-ion batteries for the Portable Air Monitors
- Replace satellite phones
- Install backup cameras on the Emergency Response Team Trucks
- Send staff to Radiological Operation Support Specialist (ROSS) training
- Send staff to HPGe Radiation Detector training
- Dry Creek Landfill Event Mitigation
 - Lutetium 177 (Lu-177) has been showing up due to being used more in medical treatments.
 - Treatments involve the use of Lu-177 with a metastable element which makes the half-life time longer.
 - The landfill's Radioisotope Identifier (RIID) did not have an updated radioisotope library. As a result, the Lu-177 appeared as plutonium on the detector and reported the finding to RPS.
 - RPS enlisted ANG Civil Support Team for on-site assistance which led to true radioisotope identification as lutetium.
 - The landfill RIID library was updated to include lutetium.
- Deceased Individual Remains Containing Post-Therapy Lu-177
 - Patient passed away 5 days after Lu-177 treatment.
 - RPS was notified and calculations were performed to determine the half-life rate for internal dosimetry purposes.
 - Decedent's body was held at the crematorium until it was safe for cremation and family to receive the remains.

Status of 2024 State Radiological Emergency Response Plan – Todd Carpenter

- The Oregon Emergency Response is a comprehensive plan that address all hazards. Each agency creates individual response plans to support the comprehensive plan.
- RPS has recently completed a revision/update of its State Radiological Emergency Response Plan (authored by RPS Emergency Preparedness Manager Todd Carpenter).
- The RPS Plan identifies all Public Health Division's agency partners and their role(s) for any interagency and intradepartmental response scenario, plus response phase benchmarks and radiation resource information.

New Business – David Howe

- Announcement that Dr. Naomi Adeline-Biggs started as the new Public Health Director August 2024
- Out of State OHA Staff Travel Restrictions
 - Restriction is through June 2025
 - Only required or grant required, and sponsored training/conferences are permitted
 - Should not impact RPS trainings/conferences

Public Comments

No comments

Announcements

Next RAC meeting is scheduled for February 12, 2025

Meeting adjourned at 1:00 pm