

Radiation Advisory Committee Meeting

February 12, 2025

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

Mechele Livran – Palm Beach Tanning

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

Saulo Sousa Melo – Oral Maxillofacial Radiologist at OHSU School of Dentistry

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

David Hamby – OSU Emeritus in Health Physics & Nuclear Engineering

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

Erin DeSemples – Radioactive License Reviewer

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

Daryl Leon – Inspector, Health Physicist

Guests

Thomas King – Oregon Board of Medical Imaging

Linda Kihs – Oregon Dental Assistants Association

Jesse Cornett – Government Relation Analyst with Kaiser Permanente

Approval of the Minutes from October 16, 2024

- Motions by Barb Smith Seconded by David Hamby
- Minutes approved.

RAC Member Candidate Appointment

- Dr. Saulo Sousa Melo 2025 – 2028 Term
- Mechele Livran 2025-2028 Term

2024 RPS Annual Summary Report

2024 RPS Budget

| RPS Expense Summary as of 09/30/2024 | | | | | |
|---|--------------------------|----------------------------|------------------------|--------------------|--------------------------|
| Grant Title | Beginning Balance | Revenue AY25/Budget | Accrued Revenue | Expenditure | Remaining Balance |
| RPS Grain Analysis Lab Fee | (39.29) | 13,860.00 | - | 7,620.83 | 6,199.88 |
| RPS X-Ray Registration Fee | 2,208.79 | 3,255,524.63 | | 2,888,513.71 | 369,219.71 |
| RPS Radioactive Materials License (RML) | 1,370.20 | 1,393,515.07 | | 1,507,066.42 | (112,181.15) |
| RPS Tanning Device Registration | 187,728.95 | 188,618.82 | 1,620.00 | 229,103.39 | 147,244.38 |
| RPS ODOE 1st RESP/REC TRNG | | 37,074.87 | - | - | 37,074.87 |
| RPS Metro Rad Mat Disposal | 19,479.33 | 18,400.07 | - | 37,900.49 | (21.09) |
| RPS Metro Rad Mat Disposal | - | 50,873.84 | - | (812.07) | 51,685.91 |
| RPS ODOE Rad. Training (Internal) | 35.42 | | | 2,331.23 | - |
| RPS ODOE Rad. Training (Internal) | - | 58,800.00 | - | 27,147.44 | 31,652.56 |
| RPS Mammography Fac Inspection PH24 | 82,086.74 | 294,680.00 | | 50,131.71 | 326,635.03 |
| RPS Mammography Fac Inspection PH25 | | | | 13,156.41 | (13,156.41) |
| | | | | | 844,353.69 |

RPS Projected Ending Balance for Fiscal Year 2025 and 2027

| | Current Revenue With No Fee Change Through FY 27 | |
|------------------------------|---|---------------------|
| Radioactive Materials | \$2,211,922 | |
| X-Ray | \$3,422,326 | |
| Tanning | \$361,313 | |
| MQSA | \$589,360 | |
| AY 23 Carry Over | \$271,311 | |
| Others (Inter-Agency Grants) | \$130,000 | |
| Total Revenue | \$6,986,232 | |
| | | |
| Overall RPS Forecast | FY25 | FY27 |
| Personnel Services | \$5,200,727 | \$5,456,626 |
| Services & Supplies | \$2,346,287 | \$2,336,932 |
| Total Expenditure | \$7,547,014 | \$7,793,558 |
| AY 25 Carry Over | | -\$560,782 |
| Total Revenue | \$6,986,232 | \$6,425,450 |
| Remaining Balance | -\$560,782 | -\$1,368,108 |

Electronic/Tanning Inspections

X-ray Inspections:

- In 2024 there were 832 facilities inspected including 3,341 machines.
- There were 160 violations noted.
- All hospitals were inspected during 2024

Tanning Inspections:

- In 2024 there were 32 facilities inspected.
- Most common violations included:
 - Timer not checked annually
 - Emergency stop not checked annually
 - Trained operator not present.

Radioactive Material Licensing and Operations

- In 2024 there were 374 radioactive material licensing actions completed.
 - They included administrative amendments, license renewals, change of Authorized User or Radiation Safety Officer, reciprocity, termination, addition or removal of a source, change of address, company name change and new licenses.

- 2024 RML Inspections and Violations
 - 74 inspections were performed
 - 12 facilities were issued a Notice of Violation
 - The violations included annual audit not conducted, leak tests not performed, inadequate radiation safety training, lack of six-month inventory/postings, inadequate security of stored materials and HAZMAT initial/three-year refresher training.

Emergency Response/Incidents

- 2024 Incidents
 - RPS responded to 46 incidents, including scrap monitor alarms, waste monitor alarms, medical events, accelerator medical events, contaminated waste, and found devices or materials.

2024 RPS Staff Training Participation

- Columbia Generating Station Dress Rehearsal Exercise
- DHS/FEMA Radiological Emergency Response Operations (RERO) Course
- DHS/FEMA Advanced Radiological Incident Operations (ARIO) Course
- RadResponder Training RPS/Civil Support Team/Oregon Department of Energy
- Columbia Generating Stations Full Scale Exercise
- Rose City Thunder Tabletop Exercise (TTX) Weapons of Mass Destruction/Radiological Incident Scenario
- Radiological Assistance Program (RAP) Training for Emergency Response
- Basic Disaster Life Support
- FDA Food Emergency Response Network (FERN) Screening for Alpha and Beta Radioactivity in Food Drill
- Radiological Emergency Preparedness (REP) Course
- Conference of Radiation Control Program Directors Annual Meeting
- NRC Materials Control and Security Systems and Principles Course
- NRC Root Cause/Incident Investigation Workshop
- Organization of Agreement States (OAS) Annual Conference
- FEMA Incident Command System (ICS) 300 and 400 Courses
- NRC Lab Fundamentals Health Physics Lab Activities
- NRC Environmental Monitoring and Air Sampling for Radioactivity Lab
- Naval Reactor Compartment Disposal Shipment Inspection/Tour
- Radiation Emergency Assistance Center/Training Site (REACT/S) Gamma Spectroscopy Course
- Delivered (3) Radiation Operator Training Sessions for Metro

2024 PHD "State Radiological Emergency Response Plan"

- RPS section of the state plan is complete for the Public Health Division

- The plan will be posted to the RPS website
- The plan provides command-and-control techniques that Public Health would use to mitigate an incident.
 - It identifies the federal, state and local partnering agencies and Public Health Division departments/programs/resources that would assist RPS mitigate an incident.

Pending Plan Additions

- Identify medical facilities able and willing to provide Radiation Safety Officers as Strike Team Members and First Responders within the State of Oregon for RPS
- Complete *Radiological Strike Team Field Operating Guide* to provide Strike Team members with guidance to mitigate a radioactive material incident [Note: Guide is 90% completed].

Radiological Emergency Response Equipment Acquisitions

- A PHD Health Security Preparedness and Response (HSPR) Grant was used for:
 1. RPS Emergency Response Truck backup cameras
 2. RPS radioanalytical lab liquid nitrogen tank flooring repair
 3. New radiation Check sources
 4. Satellite phones (delivery pending)
- RPS funding was used to acquire RadEye dosimetry

_____End of 2024 RPS Summary Report_____

2025 RPS Priorities

- Initiate process (legislative concept and policy option package) to increase RPS operating revenue
- "Activate" (strengthen) Emergency Response drone program
- Create emergency licensee/registrant paper records system
- Implement fully functional databases-
Licensing/Registration/Inspections/Incidents
- Continue staff training and professional development
- Reduce the backlog of inspections and timely completion of incident investigations/RML licensing actions
- Create an Annual RPS Enforcement and Compliance Report

Exemptions/Rules/Statutes

There is a growing number of Veterinary Facilities using Computed Tomography (CT) and fluoroscopy Devices

- RPS is challenged to maintain rules addressing emerging technologies.
- Currently, an exemption needs to be created for the use of each of these devices.
 - This includes tracking training and licensing for the operators and looking at shielding, physics reports and floor plans for the facilities.

- There are currently 12 exemptions, with 2 pending, for facilities with Veterinary CT machines. To date, 84 CT operators have been vetted.
 - There are currently 4 exemptions with 10 pending for fluoroscopy. To date, 63 fluoroscopy operators have been vetted.
- It is labor intensive to review CT-exemption documents which include: Machine physics reports, Shielding studies, and CT operator information (i.e., Names of the proposed operators, Copies of current their Oregon license (Veterinarian or Certified Vet Tech), Copies of vendor applications training, and Copies of the Medical Imaging Consultants (MIC) CT Cross Trainer Course Certificate.
- Documentation submitted for fluoroscopy exemption reviews include: Machine physics reports, Shielding studies, and Fluoroscopy operator information (i.e., Names of proposed operators, Copies of current Oregon license (Veterinarian or Certified Vet Tech), Copies of vendor applications training and Copies of the certificate from an approved fluoroscopy training course or other state license (California or Colorado)
- Discussion:
 - The Certified Veterinary Technicians (CVT's) operating the machines are not trained to do fluoroscopy during their academic CVT training.
 - Is dose tracking for veterinary patients during fluoro required? Does RPS require benchmarks and follow-ups?
 - Response: RPS doesn't require benchmarks for veterinary fluoro procedures. RPS considers where operators are standing and what they are doing. For example, during anesthesia, are they involved with breathing for the animal? Is the operator leaded or behind lead shielding?

Epica Vimago CT Machine Review

- This machine is listed and sold as a CT unit for veterinary facilities
- Is it a true CT or a fluoroscopy machine with CT capabilities? Or, is it a question specific to its' software?
- Physicists have inspected the machine and describe it as an O-arm (fluoro) as seen in hospitals. The states of Washington and Florida think the machine is not a true CT device. As such, they follow physicist recommendations and inspect the machine under fluoroscopy rules.
- RPS currently inspects it as a CT, therefore, operators need CT training (MIC CT course). The MIC CT Course is what medical CT operators take. It is a very in-depth course
- RPS is considering changing the inspection type to fluoroscopy based upon the physicist recommendation and what other states are doing. If it is considered to be a fluoroscopy machine, operators would need to complete an authority approved fluoroscopy training course.

Discussion:

- There were comparisons and distinctions made between O-arms, closed C-arms, dental CBCT's with a conical beam and flat panel detectors, and Linear accelerators (Linacs)
- The O-arm has a lot of scatter around it. It doesn't have CT numbers. They need software to make it a CT and the O-arm is set up the same way. They are not designed to operate the same way as a CT machine.
- RAC Members recommended to observe how the machine is being used. If it's more like fluoro, then operators need to complete the fluoro

training. A lot of the CT course work wouldn't apply to it if they're not using it as a CT machine.

- Dr. Zambelli's veterinary practice does not use one. She would refer a patient to a specialty center. Neurology and surgery would probably be the ones doing the most CT at specialty centers. This isn't an area that a general practice focuses on or has training outside of their specialty. It's not something a new veterinarian will have received much education on. Like human medicine, it's not the veterinarian operating the machine, it's the veterinary technician.
- Dr. Zambelli believes it's great to have a certified veterinary technician, because there is potentially less turn over. She advises to make sure there are enforced guidelines for safe fluoro and CT operation.
- RPS inspectors have found that some facilities use it for fluoro, others do not. It depends upon the understanding of what it means in terms of our definitions. It also depends on what the vendor is telling veterinary practices. The vendor is saying it's a CT, but CT is a big modality.
- A recommendation was made to have a CT tech look at the training course and then at how this machine operates to see if there is a correlation. It's not desirable to have operators take excessive courses that have little relevance to what they are doing, however you do want them to operate this machine correctly. It's important to recognize how they are using the machine. Are they in the room, and are they behind shielding, etc? Epica Vimago operators have had very little training on radiation.
- RPS will reach out to Trisha Elliot. She is a new radiation trainer and is certified in CT.
- Another recommendation is to have a CT operator from the human medical field and Trisha Elliot get together to review the course.
- The RAC recommendation is that if fluoro and CT modalities are available on the machine, then operator training for both modalities is needed.

SkinCure Dermatologist Trainer Qualifications

- An exemption request was received from SkinCure Dermatology to allow their Authorized User (AU) trainer for superficial brachytherapy be based off of the number of exams performed over two years, versus three years.
- RPS Rule 333-120-0125(4) – An Authorized User must assist with treating 15 or more patients undergoing superficial brachytherapy treatment under personal supervision of an Authorized User who has been performing superficial brachytherapy for at least three years.
- RAC recommended approval of the exemption request based upon the following:
 - The proposed Authorized User trainer had over 240 treatments performed in approximately two years.
 - That the Exemption only applies to the Authorized User trainer and Authorized User in training.
 - Any additional practice personnel would need to have their documents submitted for review.

Bone Density (Body Mass Index Screenings) DEXA scans

- RPS was contacted by the State of Nevada our OAR's and approval process for self-referral bone density exams, exams with no physician orders, or for exams

with no practitioner reviewing the exam results. Current RPS OAR's do not allow for these situations.

- Nevada informed RPS about two facilities listed in Oregon that are currently performing these exams as self-referrals, unbeknown to RPS.
- RPS did an internet search and found multiple facilities that were performing this scan
 - Most were in wellness clinics, gyms and clinics. A couple were being performed out of vans coming from out of state.
- RPS subsequently released Informational Bulletin 2025-01 to clarify the use and operation of DEXA scan machines.
 - Two rules were cited including: OAR 333-106-0035 (Patient needs to be evaluated by a licensed practitioner of the medical arts; must have a medical need for x-ray and Diagnostic information shall be reviewed by a practitioner of the medical arts, AND OAR 333-106-0055 (Diagnostic medical x-ray operator must be trained in radiation safety and meet one of the following: Possess a current Oregon Board of Medical Imaging (OBMI)x-ray license or limited x-ray machine operator permit or Be a student under direct supervision of radiologist (OBMI licensed) or a radiographic technologist (OBMI licensed) or is a student in an OBMI approved limited permit program under a radiologic technologist who is licensed by OBMI.
- Discussion:
 - There are also applicable Oregon Board of Medical Imaging (OBMI) statutes. The medical need is the same. In addition, the provider has to be licensed in the State of Oregon. For example, for a teleradiology person based out of Utah ordering the exam, they would need to have an Oregon license even though they are physically located in Utah.
 - Regarding wellness centers or fitness centers.... Per RPS and OBMI rules, a licensed practitioner has to order the scan and then interpret it. It appears that select fitness centers are having a nutritionist or dietician work with a fitness client who is coming in to do body weight loss. Clients were doing self-referrals for DEXA scans without a licensed practitioner being involved. The client may want to come in weekly to do a body scan to see how much their body mass index has changed due to their conditioning program. RPS Information Bulletin 2025-01 was distributed to address this issue.
- Note: Licensed Practitioners allowed to order a DEXA scan include Medical Doctors, Osteopaths, Chiropractors, Naturopathic Doctors, Podiatrists, Nurse Practitioners, and Physician Associates.

New Protocol Update – Inspecting Veterinary Facilities

- RPS has protocols for inspecting X-ray machines in general, but not specifically for veterinary facilities. There is a need due to the increasing complexity of inspections.
- The new protocol covers:
 - Fixed, portable and mobile radiographic machines (with photos)
 - Fixed, portable, mobile and hand-held dental machines (with photos)
 - Mobile dental panoramic machines (new technology)
 - Exemptions for computed tomography (CT) and fluoroscopy (fluoro)
 - Dip tanks – present in some vet facilities

- Restraining devised for animals
 - Examples of anatomy of human holders in x-ray images
- A copy of the protocol will be distributed to all RAC members to review.

Radiation Reduction Gloves for Veterinary Facilities (Discussion)

- A request from the public was made for RPS to review multi-use sterile, shielded gloves being used in veterinary facilities
- The gloves meet RPS Rule 333-106-601(1)(D) – 2.5 millimeters of lead equivalent for machines operating above 70kVp
- RPS identified issues including:
 - Have to be washed twice using water at a specific temperature range with specific detergent and active chlorine specifications.
 - Have to be dried flat, protected from sunlight and in controlled microclimate
 - Sterilization
 - Autoclave with high temperatures or by Ethylene Oxide Sterilization (EtO)
 - Storage- Cannot be exposed to sunlight; should avoid contact with copper, manganese, mineral oil and vegetable oil; and cannot be stored in rooms with ozone lamps, UV equipment, air purifying equipment that produces ozone, air conditioning with air cleaning function, etc.
 - There is a question about how long will the gloves last? Integrity of the gloves must be maintained
 - Degradation and damage over time = more Personal Protection Equipment (PPE) checks. (RPS would require before every use)
 - There is documentation needed for PPE checks

Legislative Bills

- This year is a long session running from January to June
- RPS is monitoring the outcome of the following Bills:
 - HB 2038 – Requires Oregon Department of Energy to complete a study on nuclear energy and disposal of resulting nuclear waste
 - HB 2426 – Relating to nuclear-fueled thermal power plants; providing that this Act shall be referred to the people for their approval or rejection
 - SB 215 – Repeal of requirements for site certificates for nuclear-fueled thermal power plants
 - SB 216 – Repeals requirement for licensed repository for disposal of high-level radioactive waste before a site certificate for a nuclear-fueled thermal power plant may be issued
- RPS does not regulate nuclear power plants, this is done by the Nuclear Regulatory Commission (NRC)

Rulemaking

RPS is Updating Therapy Rules

- This is related to x-ray machines that produce an external beam, i.e. cancer therapy.

- Last updated in 2006 with modifications in 2013
- Conference of Radiation Control Program Directors (CRCPD) mission is to generate suggested state regulations
 - Goal is to have nationally aligned regulations
 - Therapy rule suggestions were released in January of 2023
- RPS is internally proposing OAR amendments for public/interested party feedback
- Proposed OAR amendments will address:
 - Emerging technologies
 - Operational requirements relating to the machines delivered energies
 - Supervision required by the Qualified Physicist
 - Change the term from Authorized User to Authorized Physician
 - Simplify the training requirements for the Authorized Physician
 - Define dosimetry systems
 - Revise the Quality Assurance process
 - Consideration of an Oncology Safety Team
 - Consideration of a Safety Assessment Program
- Goal is to make it easier to read for interested parties
- Proposed rules will be circulated among medical professionals to get their input on the therapy rule amendments.

Emergency Preparedness/Response

X-ray Allegation

- Radiation injury from converted air conditioning units
 - RPS Duty Officer received an Oregon Emergency Response System (OERS) report from the Oregon Department of Emergency Management concerning an allegation of malicious intent toward members of the public using radioactive material
 - RPS Duty Officer contacted the Reporting Person immediately to follow up on the OERS report and gathered information, per our protocol.
 - Determined that the Reporting Person had mental health issues and, due to the information gathered, it was forwarded to the FBI
 - Duty Officer made a Mandatory Reporter Hotline call based on the Reporting Person vacating the residence and leaving a minor child behind

Amazon Sales Website for Thorium Pens

- Nuclear Regulatory Commission (NRC) received an allegation that an individual was attempting to distribute pens (wands) with possible thorium powder to a holistic wellness shop.
- The Reporting Party alleges the individual was purchasing the pens through Amazon. RPS located the item on Amazons website

- The holistic shop owner was contacted and provided the Amazon website information the individual provided
- It appears to be a nation-wide distributor outside of Oregon
- The pens were being manufactured/distributed by a Chinese company, not Oregon. No valid Oregon address was able to be located. RPS referred the findings to NRC

Health Security Preparedness and Response (HSPR) Intern: Robin Holm

- Internship Projects: 1) Updating First Responder/Receiver Training Curriculum and Coordinating with Hospitals and Counties 2) Facilitating a Community Reception Center Training Exercise and coordinating with Counties

New Business

- 2025 upcoming mandatory Radiation Advisory Committee member training

Public Comments

- No comments

Announcements

- Next RAC meeting is scheduled for June 11, 2025
- Meeting adjourned at 1:20 pm