

# **Radiation Advisory Committee Meeting**

June 11, 2025

Hybrid Meeting

Meeting Start Time: 10:01 am

## **Attending:**

### Radiation Advisory Committee Members

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

Garrett Frey – Safety Facilitator, On-Line Co.

### 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 DeSempole – 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

Alex Parker – Tanning Program Administrative Specialist

Toby Irving – Inspector, Health Physicist

Michelle Martin – Inspector, Health Physicist

Daryl Leon – Inspector, Health Physicist

Robin Holm – RPS Intern

### Guests

Thomas King – Oregon Board of Medical Imaging

Linda Kihs – Oregon Dental Assistants Association

Devin Johnson – Oregon Imaging, Lead Nuclear Medicine/PETCT technologist and RSO

Catherine Hess – Oregon Health & Sciences University, RSO

Erin Mullen - Health & Human Services Asper

## **Approval of the Minutes from February 12, 2025**

- Motioned by Barb Smith, Seconded by David Hamby
- Minutes approved by Bob Berry, Saulo Sousa Melo, David Hamby, Dennis Wood, Barb Smith and Mechele Livran.

## **RAC Member Terms**

- Barb Smith – Second Term 2022-2025
- Dennis Wood – First Term 2022-2025
  - Nominee for Second Term 2026-2029
- Jennifer Clayton – Nominee
  - 2026-2029 First Term
- Nominee Approval Motioned by David Hamby, Seconded by Barb Smith
  - Nominees Approved by David Hamby, Barb Smith, Bob Berry, Saulo Sousa Melo, Dennis Wood and Mechele Livran

## **RPS Staffing Assignments**

- 2 vacant staff positions (Environmental Health Specialist)

## **2025 Program Updates**

### **2025 RPS Budget** - RPS program Director David Howe

- Financial Analysis of the funding gap is currently being completed
- Legislative approval is required regarding any RPS fee structure changes
  - Includes increasing fees and creating additional revenue streams
    - Examples: registration fee increases, application fees, amendment fees, inspection fees and late fees

### **Electronic/Tanning Inspections** Presenter: Brent Herring

#### X-ray Inspections:

- 310 X-ray Inspections completed since last RAC (medical, dental, vet, therapy, MQSA and industrial)
  - 1166 machines
  - 1185 tubes
- Violation Summary
  - 89 citations with 115 instances
    - Machine registration – 25 citations
    - Dosimetry records maintained – 6 citations
    - Training (Dental Hand-Held and Vet Assistants) – 11 citations

#### Tanning Inspections:

- 15 Inspections completed since last RAC
- Violation Summary
  - Timer not checked annually for accuracy
  - Emergency shut-off not tested annually

#### Inspection Update

- Inspection Time – 359 hours
- Inspection Travel Time – 200 hours

- Successful Mammography Quality Standards Act (MQSA) Audit completed in March 2025 of Inspectors Brent Herring, Michelle Martin and Toby Irving
- Other Inspector Duties
  - Building Tanning and RML Databases; Maintaining X-ray and RML Database; Committees – Conference of Radiation Control Program Directors (CRCPD), Oregon Board of Medical Imaging (OBMI), etc.; Modality Working Groups (CRCPD); Radiation Safety Training Presentations; Shielding Documentation Review; New Equipment Review; Vendor Application Review; Exemption Review; Incident Investigations; Training Review; New Machine Inspection Protocols

#### Informational Bulletin – Presenter: Todd Carpenter

- Pediatric Thyroid Collar/Rectangular Collimation Released April 28, 2025
  - Pediatric thyroid collars are no longer needed during intraoral exposures if rectangular collimations and a digital receptor is used
  - If a rectangular collimator and digital receptor is not used, then a pediatric thyroid collar is still required [per Oregon Administrative Rule 333-106-0325(7)(d)]

#### Geographic Information System (GIS) Inspection Mapping Demonstration – Presenter: Tom Mynes

- Each dot on the map represents a facility or registrant in our database
- Filters can be applied by inspection type and inspection due date
- This tool assists inspectors in planning inspection trips around the state

#### **Radioactive Material Licensing and Operations – Presenter: Hillary Haskins**

- Inspection Summary - January through May 2025
  - Inspections Performed – 18
  - Inspections Remaining – 53
  - Licensing Actions Performed – 55
  - Licensing Actions Open - 131
- Decommissioning for Soil Amendment Area – TDY/City of Millersburg – Presenter: Erin DeSempole
  - October 2023 TDY Industries, LLC requested the release of the Soil Amendment Area (SAA) site from the license where it was listed
  - The SAA site is currently owned by the City of Millersburg, Oregon
  - RPS staff have completed a comprehensive review of the TYD Industries information submitted which include:
    - Decommissioning plans
    - Determining the Decommissioning Group
    - Data analysis reviewed (SAA history of use, maps, surveys/sampling locations with results, survey meter information,

site-specific values used for calculations, reasons for decisions made, etc.)

- RPS wrote a Technical Evaluation Report from data review
- Completed an Amendment for the license to remove the SAA site
- A Consent Decree signed in 1996 between TDY Industries, Environmental Protection Agency, and the City of Millersburg continues in effect that limits use of the SAA site. Removal of the SAA from TDY Industrial's radioactive material license does not relinquish the City of Millersburg from the restrictions set forth in the Decree
- The decommissioning license amendment was complex and took several months to complete due to the large quantity of information submitted for review.
- The project will be completed in June 2025

RAC Member Garrett Frey joined the meeting (10:43 am)

### **Emergency Response/Incidents** – Presenter: Hillary Haskins

- Several Radiation Waste and Scrap Metal Alarms
- 3 Accelerator Medical Events
- 15 Open Investigations

### Medical Facility Linear Accelerator Incidents Involving Misalignment – Presenter: Michelle Martin

- Over the last 5 years there have been 18 external beam reportable events
- Oregon Administrative Rule 333-123-0020(1)(b) *Reports and Notifications of Unplanned Medical Treatment* addresses if it “involves the wrong patient, wrong treatment modality, or wrong treatment site.”
- The 18 medical events are broken down to 14 positioning/shifts, 1 wrong treatment plan loaded, 1 mapping error, 1 CT incorrectly labeled and 1 Rad Calc error.
  - A shift is adjustments made to the patient's position based on imaging taken before or during treatment to align the target properly with the isocenter.
    - Causes of shifts/positioning errors include:
      - Moving couch to avoid gantry collision and not moving it back; Lining up to incorrect/healed scars (not using tattoos); Selecting wrong CT image at the LINAC console; Moving couch the wrong direction; Double application of shifts; Loading wrong treatment plans (previous plan, not current plan); or aligning to incorrect anatomical site

- Facility corrective actions
  - Second therapist verification of shifts; Additional approvals (dosimetrist, physicist, lead therapist); Policies to re-image if shift is greater than two centimeters; Approving plan changes in sequence (dosimetry, medical physicist, RT) not in parallel; Modifying error messages to reduce notification fatigue
- Root cause of errors
  - New therapists or therapists returning after an extended leave
    - Inadequate training or refresher training
  - Excessive workload
    - Ignoring error messages; approving plans in parallel; radiation oncologists not approving the first treatment image; tattoos – patient resists marking body; poor or inadequate imaging
- Technological advancements
  - Surface guided radiation therapy (SGRT) uses multiple cameras to create a 3D model of the patient's surface. It aligns the patient with the treatment isocenter before the start of treatment, tracks the patient's position and movement during treatment, tattoos are not needed, deviations from the intended position are projected onto the patient's skin allowing for corrections, it supports breath hold techniques, and reduces the number of CBCT scans needed.

#### Deceased Individuals Remains Handling Post Lutecium (Lu-177) Therapy –

Presenter: Hillary Haskins

- Two incidents have occurred. One patient passed within 24 hours of treatment, the other past five days after treatment
- Half of the treatment dose should be gone within the first 24 hours.
- Lu-177 concentrates in the liver and bones
- Lutathera has a metastable element of Lu-177 whereas Pluvicto does not
  - The metastable element causes a longer half-life
  - Lutathera is used to treat endocrine cancers
  - Pluvicto is used to treat metastatic prostate cancer that is testosterone resistant
- Funeral facilities are not offering cremation on these patients due to the cremation process
- The following list is an example of how Lutecium has been misidentified: Plutonium (Pu-94, Americium-241 (Am-241), Manganese-54 (Mn-54), Chromium-51 (Cr-51), Cobalt-57 (Co-57)
  - Ludlum and Ortek have made Lutecium-177 a standard in the library of their Radiation Indicator Isotope Detector (RIID) equipment

#### **Staff Training and Conferences** - Presenter: Hillary Haskins

- Dept. of Homeland Security/FEMA Advanced Radiological Incident Operations (ARIO) attended by Rama Wusirika

- Washington Department of Health Community Reception Center Dress Rehearsal and Evaluated Drill attended by Hillary Haskins, Robin Holm, Sarah Brodesser and Tom Mynes
- Conference of Radiation Control Program Directors (CRCPD) National Conference
  - RPS Staff that attended: Hillary Haskins & Brent Herring who also did Biology Guided Radiotherapy presentation; Tom Mynes attended Whole Body Imaging Work Group meeting
  - Only 1 out of 5 federal partners were able to attend
- CRCPD National Conference Mammography Quality Standards Act (MQSA) CEU Course
  - RPS Staff that attended: Michelle Martin, Toby Irving and Brent Herring
- First Receiver Trainings provided to Providence Seaside/Adventist Portland/Legacy Emanuel presented by Sarah Brodesser and Hillary Haskins
- 102<sup>nd</sup> Civil Support Team Radiation Source Support Training attended by Tom Pfahler

RAC Member Dennis Wood joined meeting at 11:39 am

### **Exemptions/Rules/Statutes** – Presenter: Brent Herring

#### **New Veterinary Facility Inspection Protocol**

- New 14-page protocol was created due to growing technology in veterinary facilities
  - Includes all imaging equipment: fixed, mobile and portable x-ray machines; fixed, mobile and portable dental machines, fluoroscopy and Computed Tomography devices
  - Photos are included to identify what inspectors should look for during an inspection (i.e., restraining devices, x-ray images with hands)

#### **Qualified Medical Physicist – Not Board Certified**

- A request was received to have a non board certified (American Board of Radiology) physicist be approved with general supervision (outside of the building)
- The facility stated there is an inability to find certified physicists with current nationwide shortages
- This request was denied

#### **OXOS Medical Inc (MC2 Machine) Sales in Oregon**

- Current machine has x-ray and fluoroscopy modes
  - X-ray is operable in hand-held and fixed mode
  - Fluoroscopy is only operable in fixed mode
- The machine will not be used to replace a fixed model x-ray machine

- The machine has not been approved by the Food and Drug Administration (FDA) to be used in operating rooms or settings.
- The machine is for extremities only; Mid-humerus down and knee down
- MC2 Machine specifications
  - Docked mode only performs vertical and horizontal
  - No light field- Screen on hand-held device represents the light field; \*This will require an RPS exemption.
  - No true collimation (no knobs)- Uses sensors and receptors and multiple pucks for smaller collimations \*This will require an exemption.
  - Maximum x-ray field is 9 inches by 9 inches (Normal x-ray field is 14 inches by 17 inches)
  - There is no spacer cone for fluoroscopy- Spacer cone is used so skin to source (SSD) does not go below 11 inches (30 centimeters); Machine will not expose if SSD is below 11 inches \*This will require an exemption
  - The handheld device weighs 8 pounds
  - The technology is surpassing RPS rules
  - Questions/Issues:
    - Can the fluoroscopy part be turned off?
      - The fluoroscopy use option is only activated in docked mode; it cannot be turned on in handheld mode.
    - With small SID, large body parts will put skin close to the entrance beam. According to manufacturer, the machine will not expose when this occurs. This needs clarification. With a knee, depending on the size, a grid is used because of scatter.
    - Will this replace the mini-c arm? No, it can't be used in surgery.
    - 80kVP with 2 mA at 0.2 seconds – will not work on a lot of knees.
    - Handheld weight is a possible issue
    - When being used as a hand-held device there will be radiation scatter to the operators' reproductive organs. The operator would need to wear a lead apron.
  - RPS will contact the manufacturer for more clarification regarding the above questions/issues.

## **Emergency Preparedness/Response** – Presenter: Hillary Haskins

### **Health Security Preparedness Response (HSPR) Grant Update**

- New satellite phones and new check sources have been purchased
- There is additional funding to acquire a Gamma Spec Pre-amp

### Intern Project Update – Presenter: Robin Holm

- Internship Projects include: 1) Updating First Responder/Receiver Training Curriculum and coordinating with Hospitals and Counties 2) Facilitating a Community Reception Center July 2025 Training Exercise and coordinating with Counties and 3) Creating a Community Reception Center Toolkit

### New Business – Presenter: David Howe

- There are 2025 mandatory Radiation Advisory Committee member trainings

### Public Comments

- RAC Chairperson Bob Berry stated that radiologists are hard to come by right now; that there is a trend of more mid-levels desiring to operate fluoroscopy. Bob asked why a Nurse Practitioner has stricter rules than a Physician Assistant (Associate) when it comes to using fluoroscopy?

Thomas King (Oregon Board of Medical Imaging-OBMI) explained that the training is the same; that OBMI made a change in statute about Physician Assistant (Associate) supervision so they can operate fluoroscopy without a Rad Tech or supervisor present in the room.

### Announcements – Presenter: Bob Berry

- Next RAC meeting is scheduled for October 15, 2025
- Meeting adjourned at 1:32 pm