

An aerial photograph of a lush green agricultural landscape. The image shows terraced fields, a central pond, and various types of vegetation, including palm trees and dense greenery. A white outline of a map of the state of Arizona is overlaid on the image, with a white line pointing from the text area to the state's location.

RADIATION ADVISORY COMMITTEE

Barbara Smith,
Chair

David Howe,
RPS Program Director

June 15th, 2022

TELECONFERENCE PROCEDURES



- Record phone-in number and passcode (in case you lose connectivity)
- Phone-in number and conference ID # provided in Teams invitation mail
- If phoning into meeting, use PowerPoint slides to follow meeting
- To unmute self, press *6



- Video (of yourself) is optional
- Please mute microphone unless speaking
- Use the “raise hand” feature if you have a question



- When speaking, begin by stating your name
- RPS staff will use screen share to share PowerPoint information and handouts
- The meeting will be recorded for purposes of accuracy in the minutes

RADIATION ADVISORY COMMITTEE MEETING AGENDA

June 15, 2022 – Virtual Meeting

800 NE Oregon St., Portland, Oregon (On-line)

Phone-In Number 1-971-277-2343 (Code: 919 883 08#)

(* = Action Items)

10:00 a.m.

Registration/Public Session

- Call Meeting to Order – Barb Smith, Chair
- Introduction of Guests
- Approval of Minutes – Barb Smith
- RPS Staffing – David Howe (AS1 - Alex Parker, EHS3 - Toby Irving, EHS3 - Dong Lim)

10:30 a.m.

2022 RPS Program Updates – David Howe

- RPS Budget – Todd Carpenter, Licensing Manager, RPS
- Electronic / Tanning Products Update – Brent Herring, Lead Worker, RPS
- Radioactive Materials Licensing – Hillary Haskins, Operations Manager, RPS
- Emergency Response / Incidents – Hillary Haskins
- RPS Training – Hillary Haskins

BREAK

11:15 a.m.

Exemptions/Rules/Statutes

- OXOS Medical, Inc.- Hand-Held Micro C Medical Imaging System M01 Presentation- Susan Atkinson

Rulemaking

- Rule amendments for compatibility with the Oregon Board of Dentistry allowing a dental therapist to operate intraoral dental radiographic X-ray machines and supervise students (HB 2528).



11:45 a.m. Lunch

12:15 p.m. Emergency Preparedness/Response

- ROSS – Radiation Operations Support Specialist – Hillary Haskins
- Importance of RAM security – Case study – David Howe
- Drone acquisition update – Tom Mynes
- DOE RAP program visit/briefing – Todd Carpenter
- PHD RPS radiological emergency response plan update – Todd Carpenter


12:45 p.m. New Business

- Covid-19, Travel Restrictions lifted and PSOB open – Hillary Haskins
- PSOB (reduced footprint) – RPS hybrid model – David Howe
- 2022 Mandatory RAC Member Training – David Howe
- *Resumption of in-person/hybrid RAC meetings (discussion) – David Howe
- 2023 New RAC Member Replacement – David Howe

01:30 p.m. PUBLIC COMMENTS:

2:00 p.m. Announcements \ Next meeting scheduled for October 12, 2022 /Adjourn



An aerial photograph of a coastal area. The top half shows a wide, sandy beach meeting clear, turquoise water. The bottom half shows a rocky shoreline with a large pile of reddish-brown rocks. A paved road with several parked cars and some buildings is visible on the left side. Two black text boxes are overlaid on the image.

APPROVAL OF MINUTES FROM FEBRUARY 9TH, 2022

Radiation Advisory Committee Meeting



RPS STAFFING

David Howe

- New Staff Hires
 - Alex Parker – AS1
 - Toby Irving – EHS3
 - Dong Lim – EHS3
 - Richard Patterson – EHS3
- Vacancies
 - 1 EHS3 position

We Welcome Alex Parker to RPS!!



- New Administrative Specialist 1 (AS1) Tanning Registrar
 - Coordination of all registration support tasks including databases, fiscal reconciliation, phone/mail inquiries & document management for inspection staff
- Experience / Education
 - Three years at OHA Vital Records as a Certification Specialist
 - Issued birth, death, marriage, and divorce certificates
 - Market of Choice Barista
 - Reed College: BA in English
 - Reed College Library Student Lead

We Welcome Toby Irving to RPS!!



- Environmental Health Specialist 3 (EHS3)
 - Currently training in X-Ray and RML inspections
 - Qualified MQSA inspector and will assist Brent Herring and Michelle Martin with workload
 - Will participate in ERT
 - Shadowing Brent Herring for June
- Previously worked with State of Michigan for 3 years as Radiation Safety Health Physicist
 - Performed radiation generating device (RGD) and MQSA inspections
- Interned with Lawrence Livermore National Laboratory Environmental Health and Safety Program
- Attended Oregon State University
 - Major: Radiation Health Physics
 - Minor: Physics

We Welcome Dong Lim to RPS!!

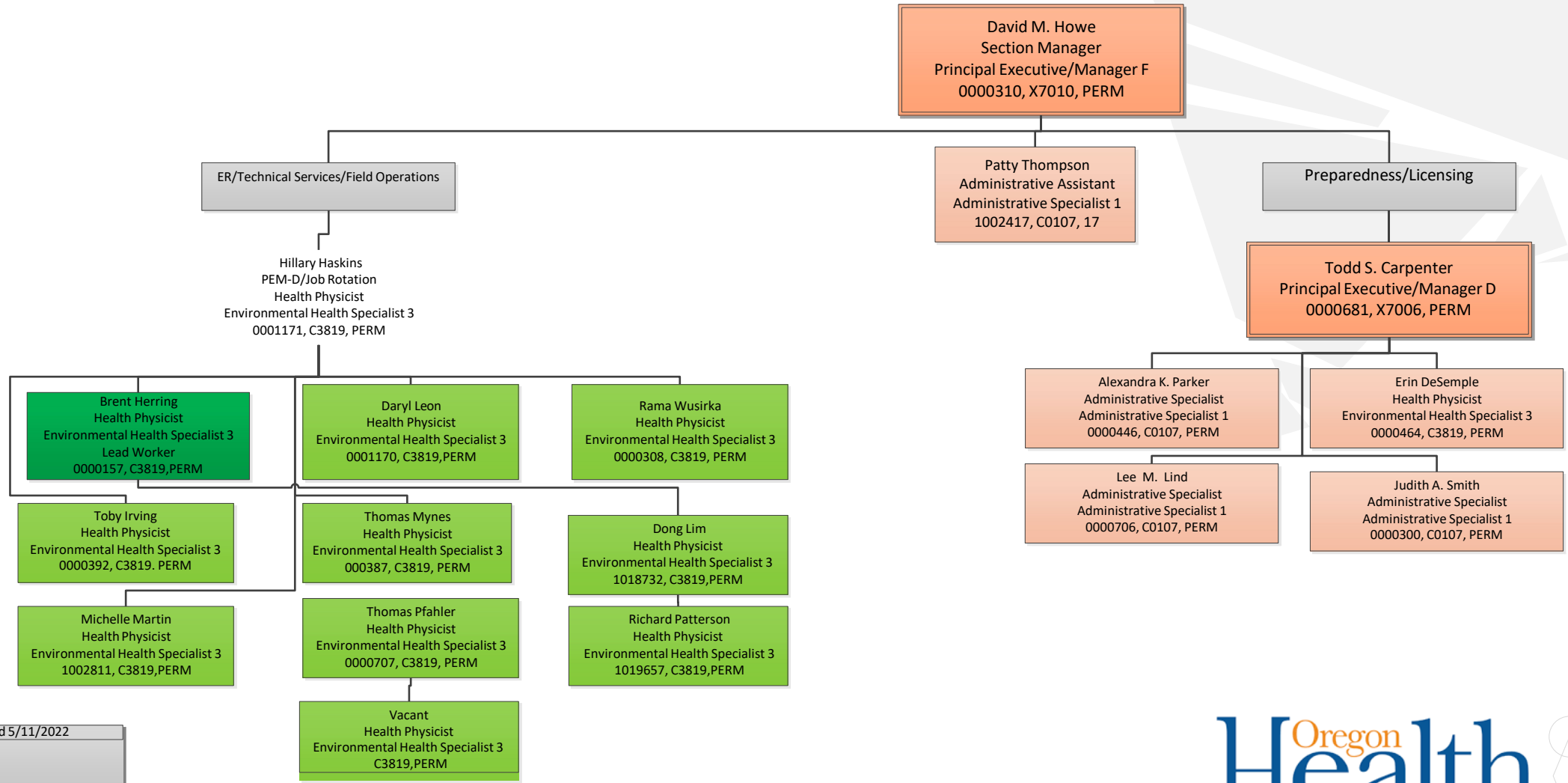


- Environmental Health Specialist 3 (EHS3)
 - Currently training in X-Ray and Tanning Inspections
 - Will participate in ERT
 - Prior experience operating lab analytical equipment and will be a resource to lab operations
 - Shadowing Tom Pfahler for June
- 1 ½ years experience with TerraPower as Health Physics Technician
 - Developed and established dosimetry and bioassay programs
- 4 years experience in commercial nuclear power
 - Technical Specialist & ALARA Engineering Lead
- Education
 - Purdue University – Radiological Environmental Management
 - Student Intern
 - Oregon Health Sciences University – Radiation Medicine
 - Visiting Student Scientist
 - Indiana University School of Medicine – Radiation and Cancer Biology
 - Undergraduate Student Lab Assistant

We Welcome Richard Patterson to RPS!!

- Environmental Health Specialist 3 (EHS3) – Starting July 11th
- Cross trained to perform tanning, X-ray and RML facility inspections, plus radioanalytical laboratory and Emergency Response Team assignments
- Experience/Education
 - Over 14 years at three California County Environmental Health Departments as an Environmental Health Analyst performing hazardous waste/cannabis regulatory inspections
 - Food, soil and water laboratory analysis
 - BS Degree-Environmental Science from California State University and MPH Degree from St. Georges University

OREGON HEALTH AUTHORITY
PUBLIC HEALTH DIVISION
RADIATION PROTECTION
SERVICES



Revised 5/11/2022



2022 PROGRAM UPDATES

RPS Budget

Todd Carpenter, Licensing Manager, RPS

Grant Title	Beginning Balance	Revenues	Personal Services	Services & Supplies	Transfers	OIS Direct Charges	Allocated Direct Charges	Indirect Charges	Total Expenses	Ending Balance
CHP-RPS MAMMOGRAPHY FAC INSP	(6,437)	217,340	34,731	13,760	0	0	2,285	8,267	59,043	151,860
CHP-RPS ODOE ER/HOSPITAL TRAINING	19,249	0	2,332	364	10,000	0	278	563	3,536	25,712
CHP GRAIN ANALYSIS	(1,132)	6,805	9,340	1,108	0	0	865	2,332	13,644	(7,971)
CHP-RPS EMERGENCY RESPONSE TRAINING	(2,238)	(0)	26,857	5,640	36,753	0	2,237	6,145	40,879	(6,363)
CHP RADIATION CONTROL-ELECTRONIC PROD	74	2,190,306	689,685	34,739	0	46,910	61,902	156,468	989,704	1,200,676
CHP-RPS RML LICENSE FEE	(179,213)	695,989	520,864	14,417	0	76,218	46,982	122,242	780,723	(263,948)
CHP RPS-METRO RML DISPOSAL	70,353	9,200	856	0	0	0	61	165	1,082	78,471
CHP TANNING DEVICES REGISTRATION	59,967	136,313	42,929	515	0	0	3,202	9,882	56,529	139,750
	(32,939)	3,038,612	1,292,864	56,783	46,753	123,128	115,527	297,797	1,886,098	1,166,328

Electronic/Tanning Inspections

Brent Herring, X-Ray Program Lead Worker

- Inspection Update
 - RPS is currently performing in-person inspections. Appointments are still made due to COVID-19.
 - Inspections performed since last meeting:
 - 139 X-ray Inspections (medical, dental, vet, therapy, and industrial.)
 - 791 machines and 819 tubes
 - 21 MQSA Inspections
 - 24 Tanning Inspections
- MQSA Contract and Inspections
 - Contract period is May 2, 2021 to May 1, 2022.
 - All inspections were completed during last contract period.
 - George Echoltz retired and will no longer be our backup MQSA inspector. Toby Irving will fill his position and start MQSA inspections in July 2022

RADIOACTIVE MATERIALS LICENSING (RML)

Hillary Haskins,
Operations Manager, RPS



RML Activity Feb-Jun 2022

Description	Count
Inspections	34
Licensing Actions	64
Closed Incidents	10
Open Incidents	11





Emergency Preparedness / Incidents

Hillary Haskins

- Emergency Response
 - Focus on purchasing RIIDs for drone and emergency response vehicles
- Incidents of interest
 - Transportation
 - Medical dose fell off back of delivery vehicle
 - HDR delivered to wrong address
 - Tanning
 - Bed malfunction
 - Operator not present when customers were tanning
 - Scrap/waste alarms

RPS Training

Hillary Haskins

- NRC on-line courses
- Selected RPS staff for specific courses
- ICS on-line courses
- Conferences attended in-person and on-line
 - Conference of Radiation Control Program Directors
 - David Howe
 - Hillary Haskins
 - David Hamby
 - Health Physics Society (July)
 - Hillary Haskins
 - Organization of Agreement States (August)
 - Todd Carpenter





BREAK



EXEMPTIONS/RULES/STATUTES

The logo for OXOS is displayed in large, white, stylized characters. The 'O's are composed of two thick, curved segments that do not meet at the top and bottom. The 'X' is formed by two thick, diagonal lines crossing at the center. The 'S' is a thick, solid, sans-serif letter. The background is a blurred image of a person in a blue lab coat working with a robotic arm in a laboratory setting.

OXOS

OXOS Medical Micro C M01 Materials for
Department of Human Services and Oregon Health Authority
(DHSOHA) Radiation Advisory Committee (RAC)

Micro C M01

FDA 510(k) Cleared

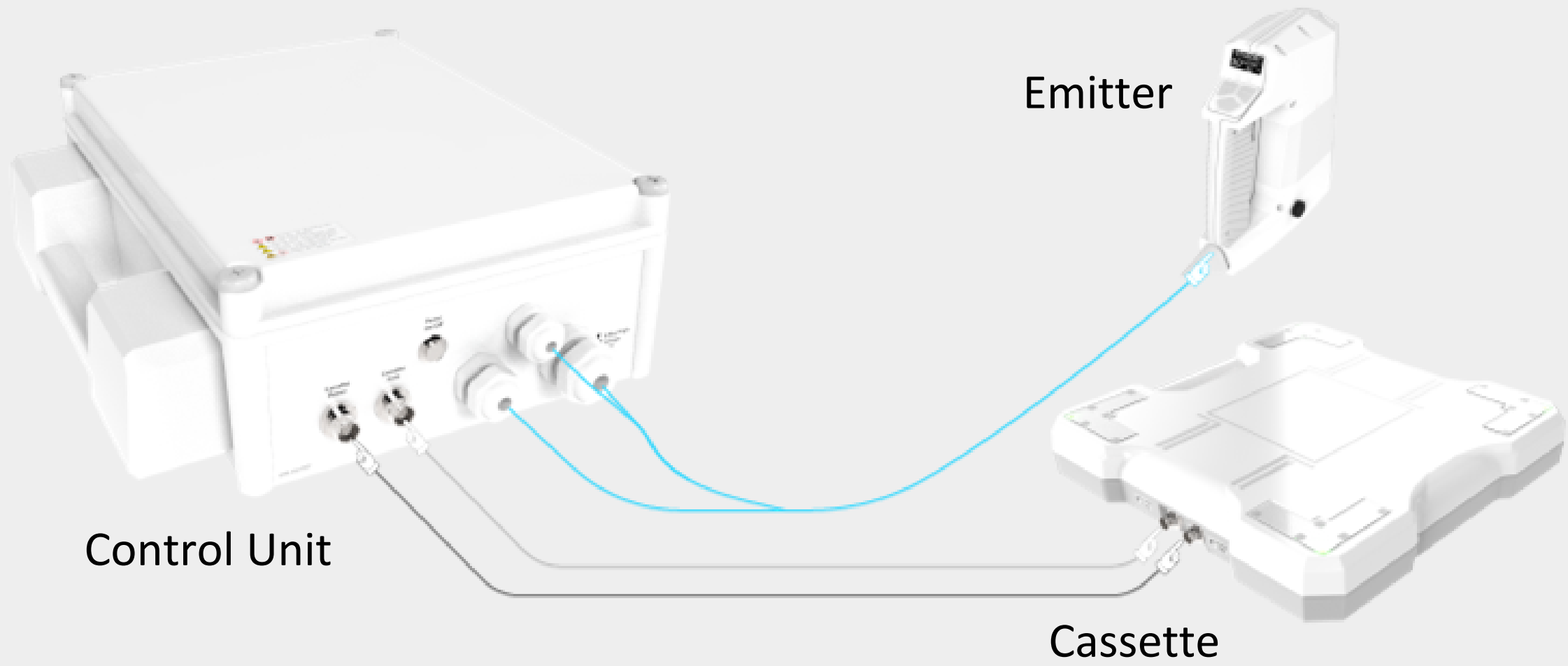
([K203658](#), [K211473](#), [K212654](#))

Portable x-ray system (or *optionally* handheld x-ray system) under IZL FDA product code and 21 CFR 892.1720.

Micro C M01 is a complete system, not a disparate x-ray source and x-ray detector.



Micro C M01 Major Components



Indications for Use

Micro C M01 is a handheld and portable general purpose X-ray system that is indicated for use by qualified/trained clinicians on adult and pediatric patients for taking diagnostic static and serial radiographic exposures of extremities.

The device is not intended to replace a radiographic system that has both variable tube current and voltages (kVp) in the range that may be required for full optimization of image quality and radiation exposure for different exam types.

Technical Specs

Weight: 45 lbs, all inclusive.

Tube Voltage: 40–60 kV

Beam Current: 1.0 mA fixed

Exposure Time: 33–99 ms

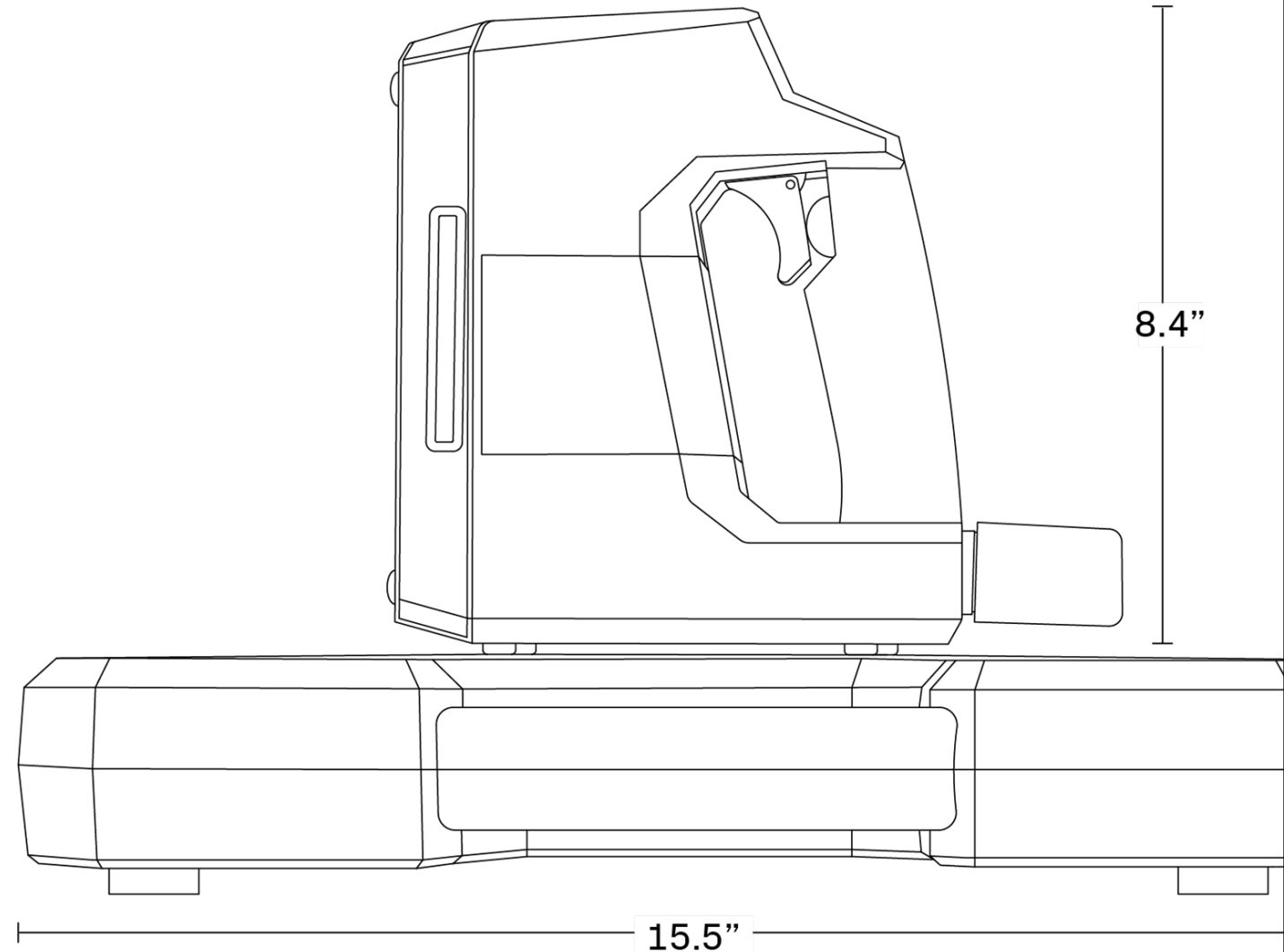
Focus: 0.1 mm x 0.1 mm

20 cm SSD min–45 cm SID max

Active Area: 15 x 15 cm

Resolution: 2.25 MP

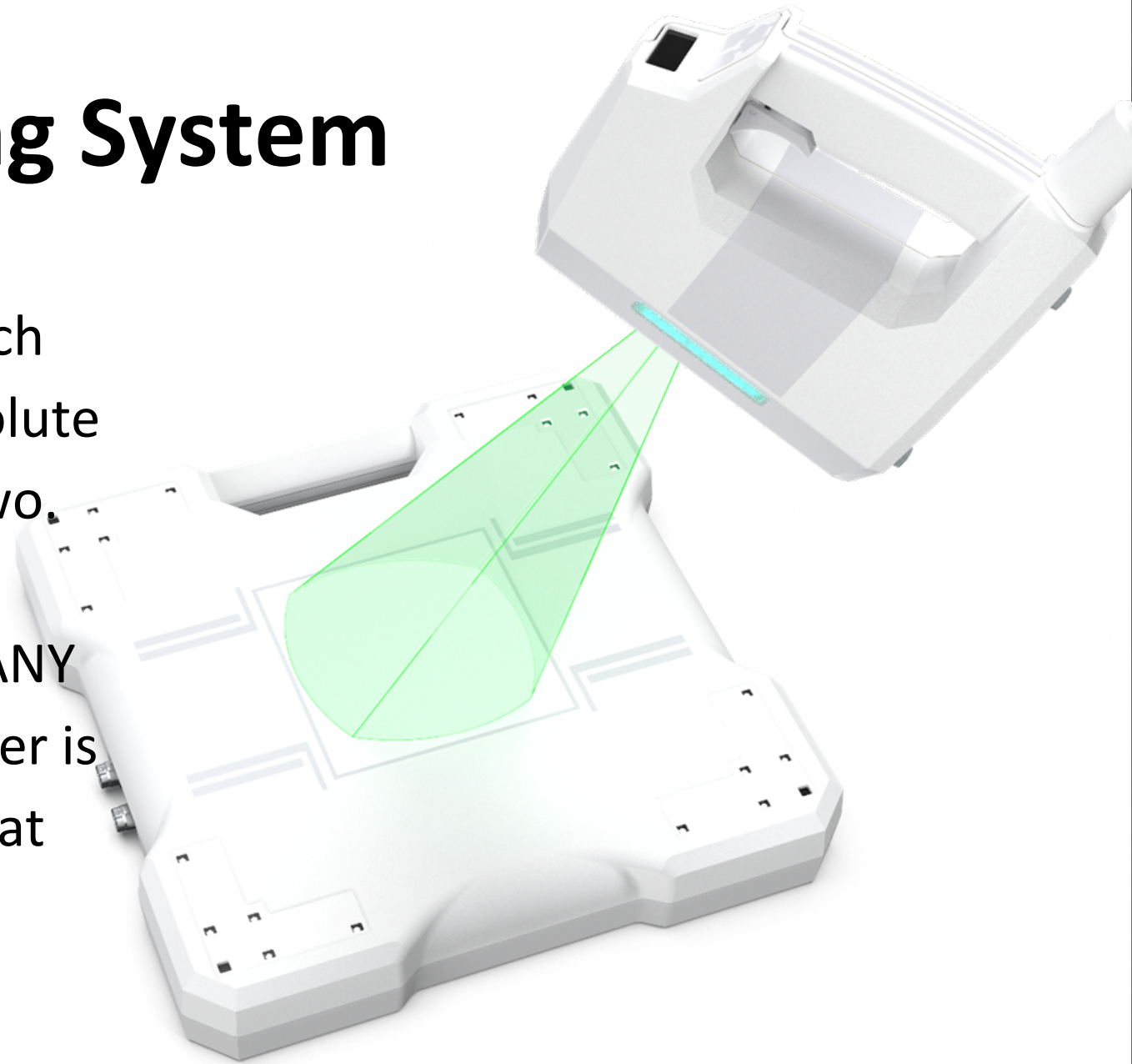
Pixel Pitch: 99 μm



Patented Positioning System

M01 Emitter and Cassette track each other in space, computing the absolute distance and offset between the two.

“No-Fire” Safety System prevents ANY emission of x-ray unless M01 Emitter is orthogonal to Cassette active area at proper SID and SSD.



Serial X-Ray (DDR) Imaging Mode

Micro C M01 offers a Serial X-Ray Imaging Mode, also known as Dynamic Digital Radiography (DDR)

- DDR is a low-dose implementation of cineradiography, captured at 5 fps, with each frame being a single capture
- Can be used for observing, freezing, and tracking movement using diagnostic-quality x-ray stills that can be replayed, paused, or individually stepped through

DDR vs. Fluoroscopy

- DDR uses high beam current (mA) short exposure time (ms), as opposed to the inverse that is used for fluoroscopy
- DDR is 5 fps, as opposed to typical 10–30 fps with pulsed or continuous fluoroscopy
- Each DDR frame is a true single capture, as opposed to fluoroscopy integrating multiple images per frame, even if both imaging modes were at 5 fps
- Fluoroscopy can be used for tracking movement (e.g., instrument navigation). DDR can be used for tracking movement AND making diagnostic determinations.

DDR

Dynamic Digital Radiography creates live motion by stitching a series of tack-sharp, high-speed captures.

Examples:

[Foot](#), [Knee](#), [Elbow](#), [Wrist](#), [Thumb](#)

M01 and DHSOHA Portable Req.

- 333-106-0005 (121)(b): "Portable equipment" means X-ray equipment designed to be hand-carried but not hand-held during operations.
- 333-106-0045 (4): Portable or mobile X-ray equipment shall be used only for examinations where it is impractical to transfer the patient(s) to a stationary X-ray installation due to the medical status of the patient or the inability of the patient to be left alone during the imaging procedure...
- Micro C M01 meets all applicable sections of 333-106-0305, 333-106-0101.
 - Micro C M01 is not intended to be used in the same location for any extended period of time. Micro C M01 is meant to be a point-of-care imaging system, and it specifically permits the operator to be at least 12 ft from the tube housing assembly during exposure to meet 333-106-0305 (2)(b)(C)(ii).
 - Mechanical support of tube head is provided, per 333-106-0101 (9).

M01 and DHSOHA Portable Req.

- 333-106-0310 (1–2): All mobile or portable radiographic systems shall be provided with means to limit the source-to-skin distance to equal to or greater than 30 cm. This is considered to have been met when the collimator or cone provides the required limits. Any device provided to limit the SSD must be durable and securely fastened to the system.
 - This requirement parallels the requirements of 21 CFR §§1020.30 – 1020.31.
 - According to the Oregon Secretary of State’s website, Section 33-106-0310 of the “X-Rays in the Healing Arts” regulations had its most recent update in 2006.
 - In 2019, the FDA published its guidance document “Medical X-Ray Imaging Devices Conformance with IEC Standards” in which it recognized that compliance with specified IEC standards is deemed to meet the requirements of 21 CFR §§1020.30 – 1020.31.

M01 and DHSOHA Portable Req.

- 333-106-0310 (1–2) continued...
 - The FDA-recognized IEC standards include IEC 60601-2-54, Clause 203.9.102, stating the SSD limit shall be equal to greater than 20 cm.
 - Pursuant to 21 U.S. Code §§ 360(k) and 360(ss), where a federal standard is in effect regarding an aspect of performance of an electronic product (such as the M01), states are not permitted to enforce any standard which is applicable to the same aspect of performance of such product and which is not identical to the federal standard.
 - OXOS respectfully requests the RAC to accept the M01's compliance with the FDA-recognized IEC standard for SSD and not to enforce its non-identical standard.

Source-to-Skin Distance (SSD)

The FDA and international regulations specify that a minimum source-to-skin distance (SSD) must be maintained. [Per FDA](#), OXOS can either meet 21 CFR §§1020.30 – 1020.31 (30 cm SSD) **OR** comply with other FDA-recognized performance standards (i.e., IEC 60601-2-54, Clause 203.9.102) (20 cm SSD).

The M01 System is designed to maintain a minimum 20 cm source-to-skin (SSD) distance, which can be achieved using the M01 SSD Cone, and can work within a maximum source-to-image distance (SID) of 45 cm.

Micro C M01 Portable Use





9 ft foot pedal length

>12 ft operable distance b/t foot pedal and x-ray tube housing

6 ft max distance b/t Emitter and Control Unit

Rad. Physicist Approved

In addition to the FDA, third-party radiation physicist from Duke Health System has separately reviewed OXOS claims regarding Micro C M01 and summarized findings in [Expert Letter](#).



Expert Letter
Medical Physicist Steven Mann, PhD, DABR
September 10th, 2021
Micro C Medical Imaging System, M01
Radiation Exposure & Safety

Forward

To Whom It May Concern:

I'm writing on behalf of OXOS Medical, Inc., for whom I serve as a 3rd party consultant medical physicist, to provide an objective review of the radiation exposure and safety characteristics of their current generation Micro C imaging device. Being an ABR board-certified medical physicist with extensive experience in fluoroscopy and radiography, I am well suited to the task of reviewing the qualities of this novel imaging system.

For organization, this letter is separated into two sections: Patient Radiation Safety and Operator Radiation Safety. Within both, I provide my objective opinion of the operational aspects of the Micro C device as it relates to each, including comparisons to existing and widely utilized technology.



www.oxos.com
1230 Peachtree Street NE,
STE 300,
Atlanta, GA 30309

OXOSMEDICAL

Sample Captures



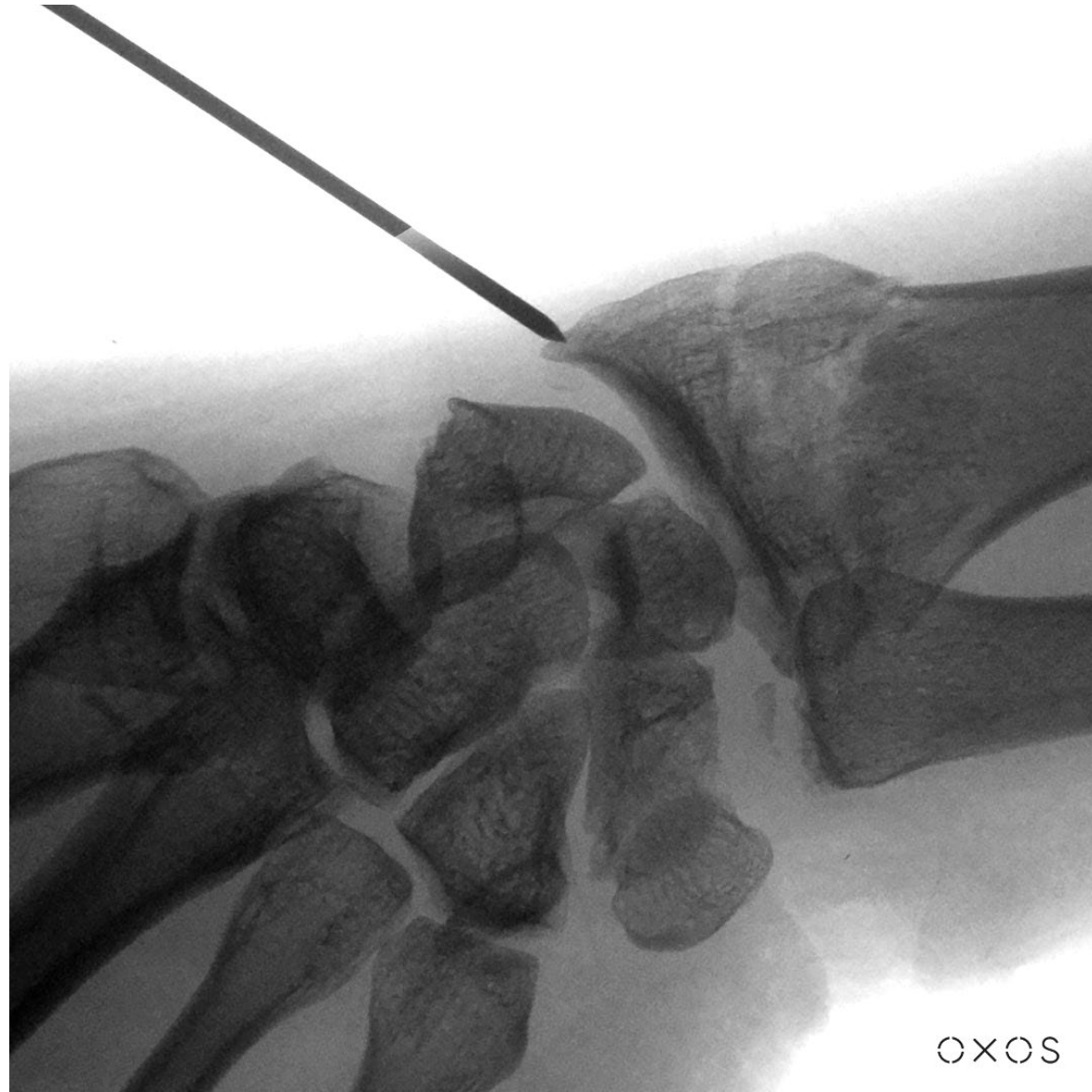




OXOS



OXOS



Capture Comparison

Hand X-Ray

Micro C vs. OEC Elite Miniview vs. OEC 6800.



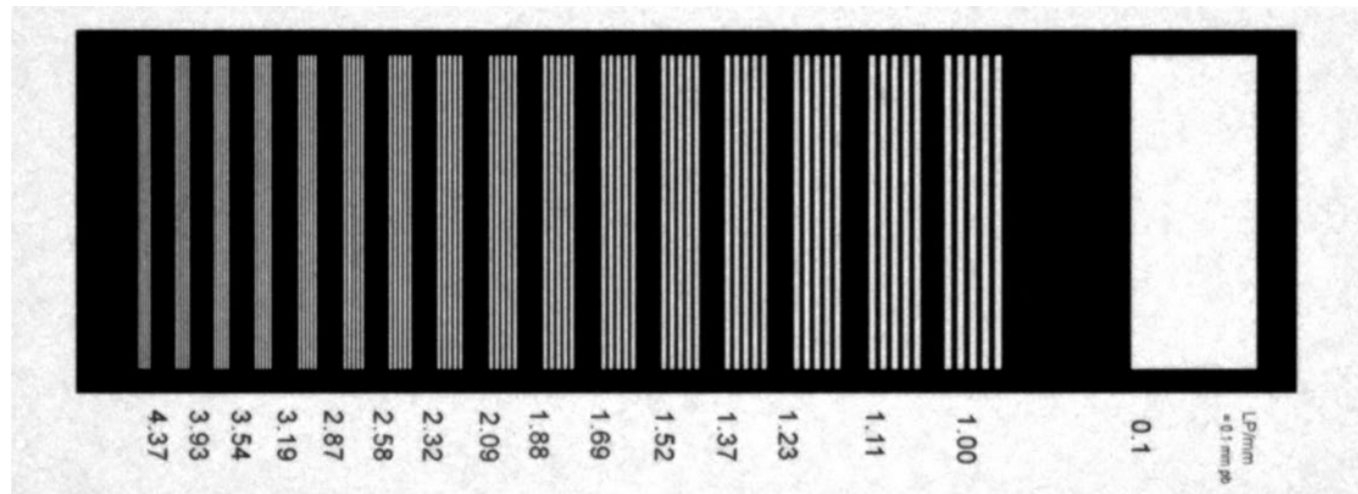
Knee X-Ray

Micro C vs. OEC Elite Miniview vs. OEC 6800.

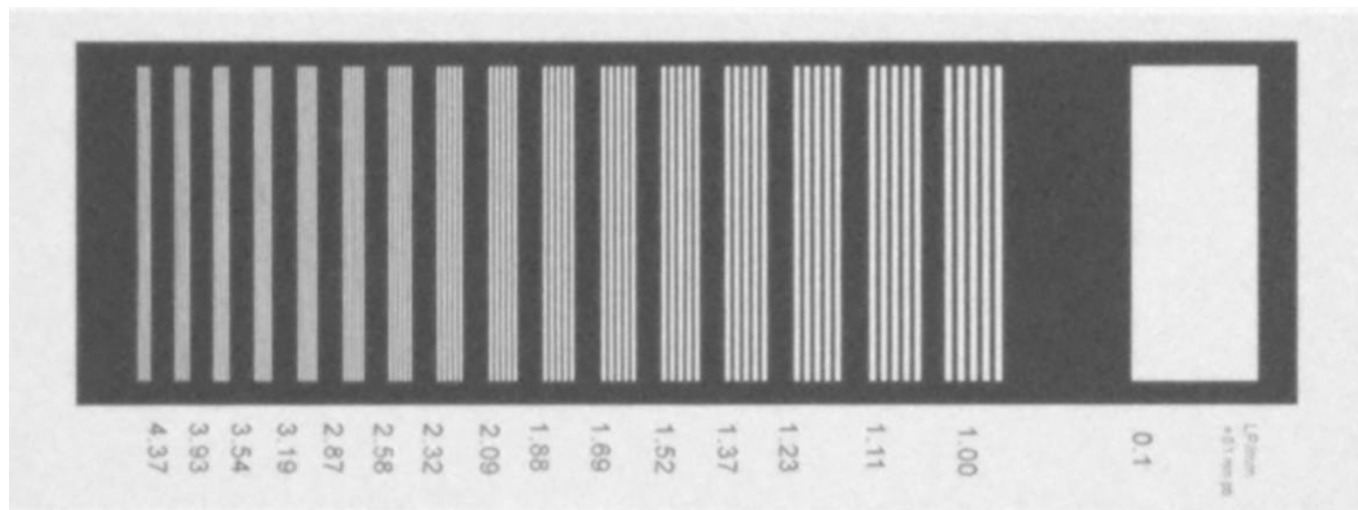


MTF Comparison

Micro C at 50 kV



Smart-C at 60 kV



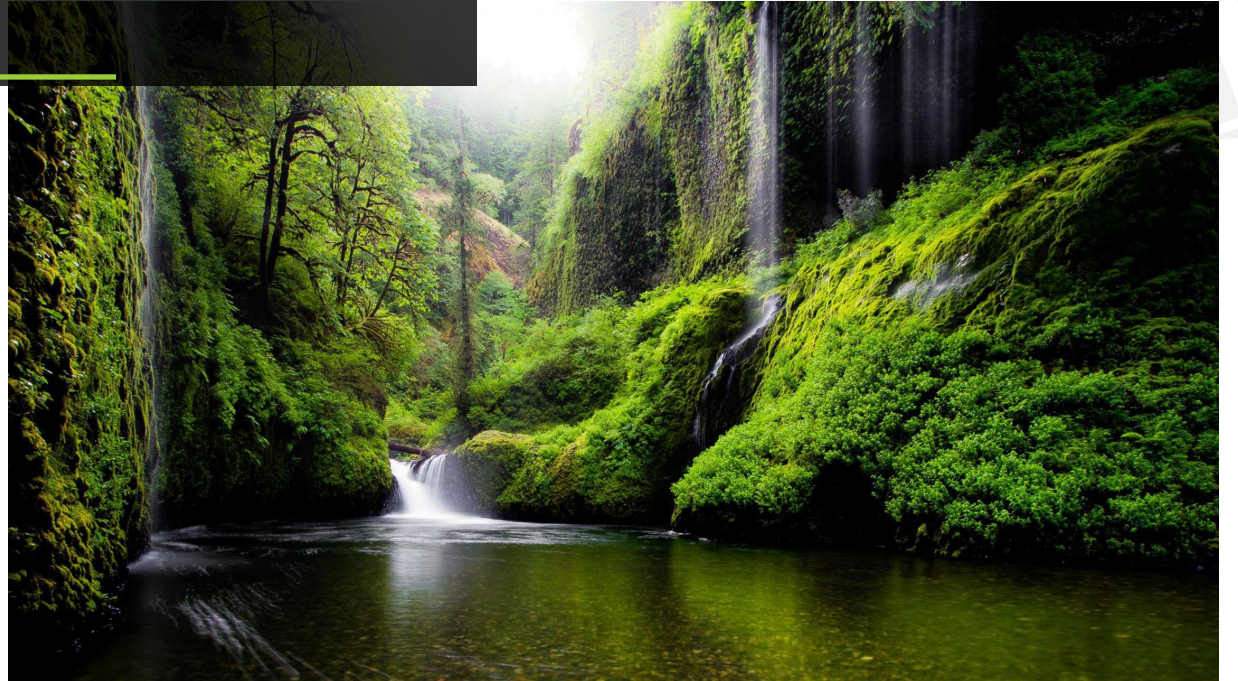


RULEMAKING

Todd Carpenter

Rule Amendments for Compatibility with the Oregon Board Of Dentistry Allowing a Dental Therapist to Operate Intraoral Dental Radiographic X-Ray Machines and Supervise Students (HB 2528)

Todd Carpenter



333-106-0005

Definitions

(28) "Dental therapist" means a person licensed to practice dental therapy under ORS 679.603.

333-106-0055

General Requirements: X-ray Operator Training

(1) The registrant shall assure that individuals who will be operating the X-ray equipment by physically positioning patients or animals, determining exposure parameters, or applying radiation for diagnostic purposes shall have adequate training in radiation safety.

(a) Radiation safety training records shall be maintained by the registrant for each individual who operates X-ray equipment. Records must be legible and meet the requirements in OAR 333-120-0690.

(b) When requested by the Authority, radiation safety training records shall be made available.

(2) Dental X-ray operators who meet the following requirements are considered to have met the requirements in section (1) of this rule:

(a) Currently licensed by the Oregon Board of Dentistry as a dentist, dental therapist, or dental hygienist; or

(b) Is a dental assistant who is certified by the Oregon Board of Dentistry in radiologic proficiency.

(c) Dental radiology students in an approved Oregon Board of Dentistry dental radiology course are permitted to take dental radiographs on human patients during their clinical training, under the direct supervision of a dentist, dental therapist, or dental hygienist currently licensed, or a dental assistant who has been certified in radiologic proficiency by the Oregon Board of Dentistry.



LUNCH



EMERGENCY PREPAREDNESS / RESPONSE

ROSS – Radiological Operations Support Specialist

Hillary Haskins

- In-Person Training
 - http://ctosnnsa.org/pages/courses/courses_mobile_training_description
- Flyer
 - https://www.fema.gov/sites/default/files/2020-07/fema_cbrn-ross.pdf
- General Info
 - <https://www.crcpd.org/page/ROSS-Portal>
- Booklet
 - https://www.fema.gov/sites/default/files/2020-05/fema_nims_509_ross_0.pdf



Importance of RAM Security – Case Study from 2022 CRCPD Annual Meeting

David Howe



Case Study

- State of Arizona Industrial Radiography (IR) Licensee
- An IR Operator employee was in a mental health crisis and having a marital affair
- During a domestic violence incident, he stabbed a family member and fled the scene
- Stole three company Industrial Radiography cameras (containing Iridium-192 sources) from a secured area using company issued key
- FBI was notified, who put out an APB, and responded to employee's residence
- While FBI on site, employee returned home and was taken into custody without incident

Case Study - Continued

- During in-custody interview, employee indicated he had been suicidal
- Employee Intended to create a stand-off with police
- Wanted to remove radiation sources from cameras and hide them around him (in triangular configuration)
- Employee hoped to create a prolonged police stand-off and irradiate responding law enforcement personnel with radiation from the hidden sources
- Scenario highlights the importance of vetting employees, monitoring their stability and developing “check and balance” security measures for RAM access



Drone Acquisition Update

Tom Mynes,
Inspector, RPS

Moving Forward...



Quick Facts:

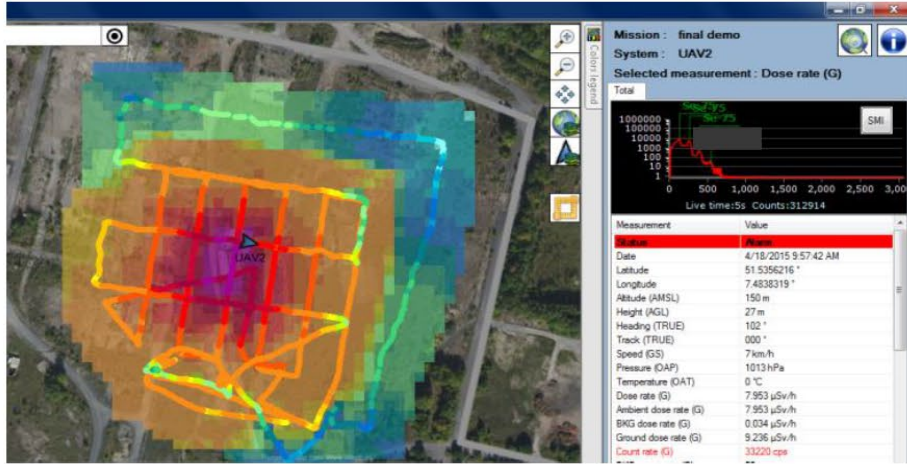
- May 2022 - State Purchasing has request from RPS to purchase SPIR-ACE. (In Process)
- Multiple uses – Drone & Handheld RIID
- Fastest ID Capabilities
- Dose Rate
- Lightweight – 3.1 lbs~
- SPIR-Mobile Software & Reach back Capabilities

- Next Steps:
- Attaching to M210 Drone
- Pilot licensing for a couple more Staff
- Flight Practice and Emergency Ops Training

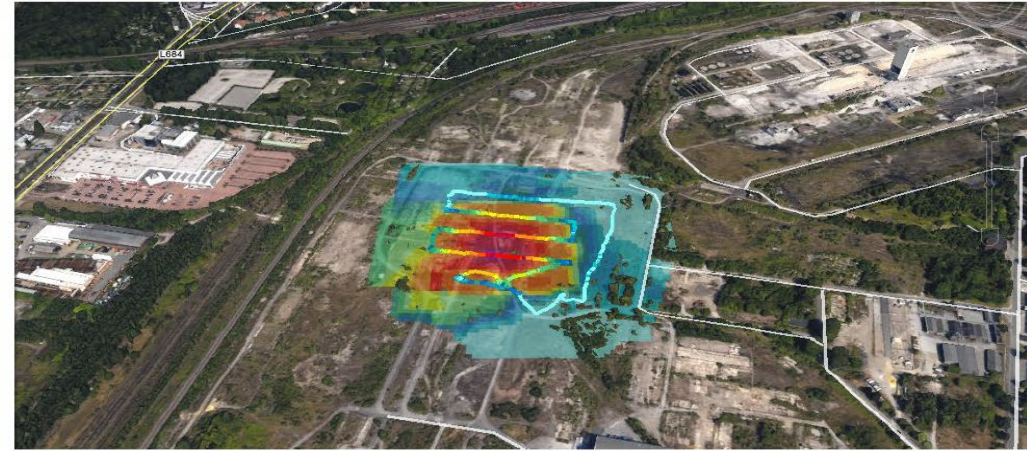




Scenario – nuclear accident (exercise with Se-75)



SpirMOBILE



Google Earth

Mapping after a Nuclear Accident

- High range of measurements 1 Sv/h
- High spatial resolution for 2.5 μSv/h and 0.5 μSv/h
- Radionuclide identification, nuclear accident libraries, active stabilization





DOE Radiological Assistance Program (RAP) Visit/Briefing

Todd Carpenter



RAP Regions

Region 8: Richland
 24-hr Phone: 509-373-3800
 Fax: 509-376-3781

RRPM: Conrad Gilbert
 conrad.gilbert@nnsa.doe.gov
 Work: 509-376-8519
 Cell Phone: 505-400-3671

ROM: Tricia Poland
 Tricia_I_Poland@rl.gov
 Work: 509-372-0096
 Cell: 509-430-1518
 Fax: 509-376-0463

Region 7: Livermore
 24-hr Phone: 925-422-7595
 Fax: 925-423-6727

RPM: Heather McAdams
 heather.mcadams@nnsa.doe.gov
 Work: 925-424-2877
 IRIDIUM: 881-676-320-058
 Pager: 888-641-5652
 Cell Phone: 925-667-1831

ROM: Greg Jones
 jones88@lilni.gov
 Work: 925-423-9875
 Pager: 925-423-7705 pin: 01069
 Cell Phone: 925-525-9233
 Fax: 925-423-6266

DOE/NNSA Headquarters
 24-hr Phone: 202-586-8100
 Fax: 202-586-8485
 Kent Gray RAP Program
 Manager Cell: 505-974-1040

Region 6: Idaho
 24-hr Phone: 208-526-1515
 Fax: 208-526-1929

RPM: Conrad Gilbert
 conrad.gilbert@nnsa.doe.gov
 Work: 509-376-8519
 Cell Phone: 505-400-3671

ROM: Kevin Hungate
 kevin.hungate@lilni.gov
 Work: 208-526-2550
 Cell Phone: 208-520-5977
 Fax: 208-526-5000

Region 5: Chicago
 24-hr Phone: 630-252-4800
 Fax: 630-252-5440

RPM: Christina Van Horn
 christine.vanhorn@nnsa.doe.gov
 IRIDIUM: 881-676-320-057
 Cell Phone: 202-714-5065
 Fax: 630-252-7849
 Classified Fax: 630-252-8308

ROM: Steve Bettenhausen
 sbettenhausen@anl.gov
 Work: 630-252-9503
 Cell Phone: 630-669-7604
 Fax: 630-252-7849

Region 1: Brookhaven
 24-hr Phone: 631-344-2200
 Fax: 702-295-4293

RPM: Jody Lupo
 jody.lupo@nnsa.doe.gov
 Work: 631-344-7978
 IRIDIUM: 881-676-320-053
 Cell Phone: 301-366-1756
 Classified Fax: 516-344-2480

ROM: Kathleen McIntyre
 mcintyre@bnl.gov
 Work: 631-344-5868
 Cell Phone: 631-872-7897
 Fax: 631-344-5556

NSP/NCR: Washington, DC
 24-hr Phone: 202-586-8100
 Fax: 702-295-4293

RPM: Lonnie Swindell
 robert.swindell@nnsa.doe.gov
 Work: 202-586-9067
 Pager: 301-206-5993
 Cell Phone: 202-255-4877
 Fax: 301-817-3402

ROM: Ron Wolf
 wolfrs@nv.doe.gov
 Work: 301-817-3455
 Pager: 301-206-5997 pin: 1030850
 Cell Phone: 240-535-6346
 Fax: 301-817-3411

Region 3: Savannah River
 24-hr Phone: 803-725-3333
 Fax: 803-725-1430

RPM: Christina T. Edwards
 christina.edwards@nnsa.srs.gov
 Work: 803-952-6613
 IRIDIUM: 881-676-320-056
 Cell Phone: 803-507-2703
 Fax: 803-952-8525
 Classified Fax: 803-725-5272
 (Call 803-725-1911 before sending)

ROM: Trent Edwards
 trenton.edwards@srs.gov
 Work: 803-952-9317
 Pager: 803-725-7243 pin: 20255
 Cell Phone: 803-646-4482

Region 2: Oak Ridge
 24-hr Phone: 865-576-1005
 Fax: 865-576-9772

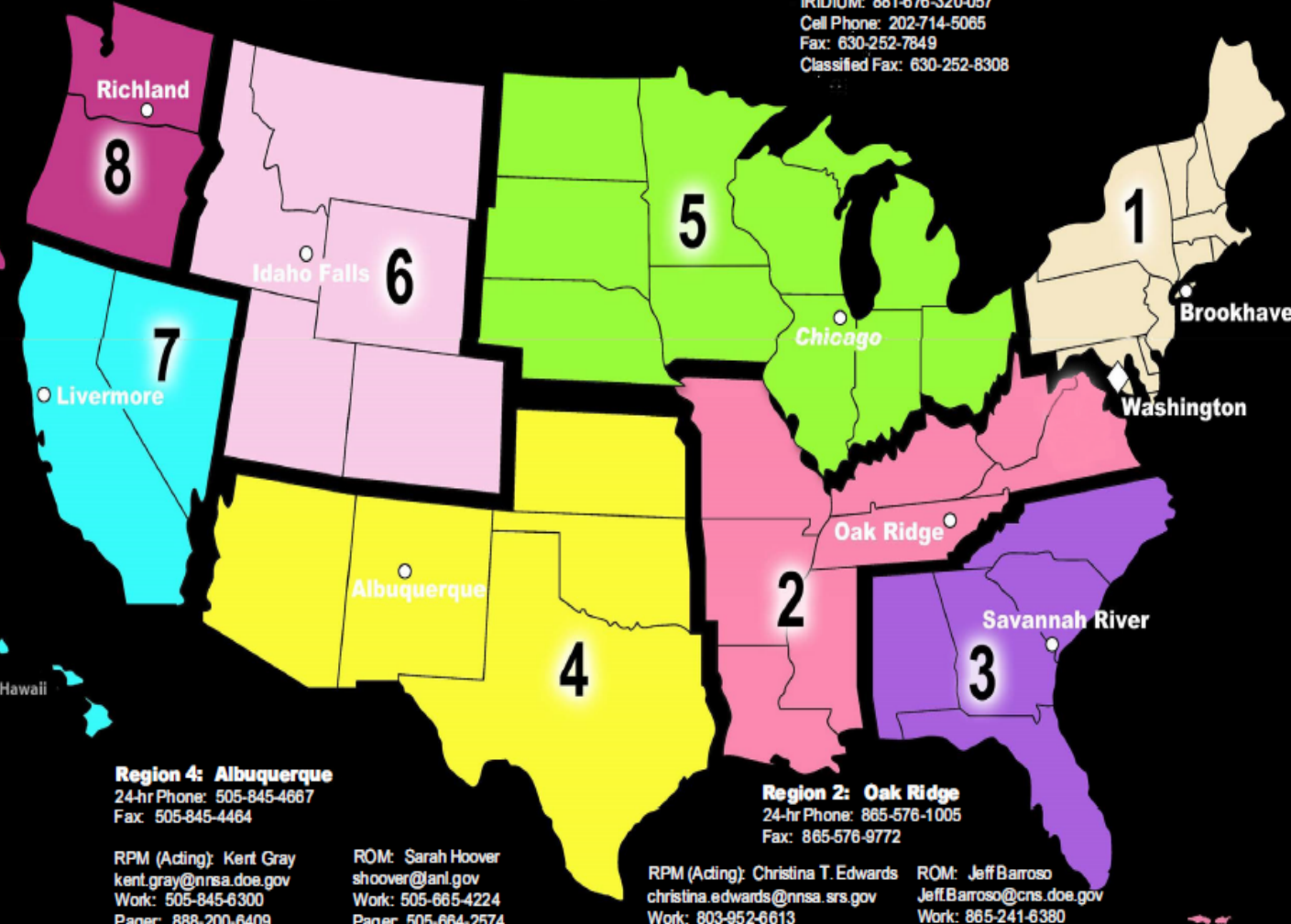
RPM (Acting): Christina T. Edwards
 christina.edwards@nnsa.srs.gov
 Work: 803-952-6613
 IRIDIUM: 881-676-320-056
 Cell Phone: 803-507-2703
 Fax: 803-952-8525
 Classified Fax: 803-725-5272
 (Call 803-725-1911 before sending)

ROM: Jeff Barroso
 Jeff.Barroso@cns.doe.gov
 Work: 865-241-6380
 Pager: 865-916-0770 Cell
 Phone: 865-414-5907
 Fax: 865-576-4303

Region 4: Albuquerque
 24-hr Phone: 505-845-4667
 Fax: 505-845-4464

RPM (Acting): Kent Gray
 kent.gray@nnsa.doe.gov
 Work: 505-845-6300
 Pager: 888-200-6409
 IRIDIUM: 881-676-320-052
 Cell Phone: 505-974-1040
 Fax: 505-284-7536
 Classified Fax: 505-845-6350

ROM: Sarah Hoover
 shoover@anl.gov
 Work: 505-665-4224
 Pager: 505-664-2574
 Cell Phone: 505-699-4857



U. S. Virgin Islands

Puerto Rico

Center For Health Protection Radiological Response Plan

Todd Carpenter



1 CONTENTS

2 Introduction6

3 Purpose and Authorities7

 3.1 Authorities.....7

4 Situations and Assumptions.....8

 4.1 Situations.....8

 4.2 Assumptions.....10

5 Concept of Operations12

 5.1 NIMS Guiding Principles.....12

 5.2 ICS Organization Descriptions.....15

 5.3 Overall Organizational Functions.....16

6 Notification17

7 Operational Priorities.....18

8 Activation of the Health Security, Preparedness and Response, Agency Operations Center21

 8.1 AGENCY OPERATIONS CENTER (AOC).....21

9 Radiological Incident Phases and Applicability of Protective Actions.....22

 9.1 Early Phase.....23

 9.2 Intermediate Phase.....23

 9.3 Late Phase.....23

 9.4 Applicability of Protective Actions.....24

 9.5 Advisories.....24

 9.6 Re-entry, Restoration, Return, and Relocation.....26

10 Early Phase Objectives by Program29

 10.1 Radiation Protection Services.....29

 10.2 Health Security, Preparedness and Response.....29

 10.3 Environmental Public Health.....30

Center For Health Protection Radiological Response Plan (Cont'd)

10.4 Acute and Communicable Disease Prevention Section.....	30
10.5 Oregon State Public Health Laboratory	31
10.6 Drinking Water Services.....	31
10.7 Environmental Public Health – Foodborne Illness Prevention Program.....	31
10.8 Public Information/Risk Communication	32
11 Intermediate and Late Phase, Reentry and Recovery Objectives by Program.....	32
11.1 Radiation Protection Services	32
11.2 Health Security, Preparedness and Response	33
11.3 Environmental Public Health	33
11.4 Acute and Communicable Disease Prevention Section.....	34
11.5 Oregon State Public Health Laboratory	34
11.6 Drinking Water Services.....	35
11.7 Environmental Public Health – Foodborne Illness Prevention Program.....	35
11.8 Public Information/Risk Communication	35
12 Government Agencies Roles and Responsibilities	37
12.1 Federal Agencies.....	38
12.1.1 FBI	38
12.1.2 U.S. Department of Energy (DOE).....	38
12.1.3 Nuclear Regulatory Commission (NRC)	39
12.1.4 Environmental Protection Agency (EPA).....	39
12.1.5 Center for Disease Control (CDC).....	39
12.1.6 Radiation Emergency Assistance Center/Training Site (REAC/TS).....	40
12.1.7 US Coast Guard National Response Center	40
12.2 State Agencies.....	40
12.2.1 Oregon Health Authority Public Health Division (PHD)	40
12.2.2 OHA Center for Health Protection (CHP), Radiation Protection Services	41

Center For Health Protection Radiological Response Plan (Cont'd)

12.2.3 OHA Health Security, Preparedness and Response (HSPR)	41
12.2.4 OHA, Environmental Public Health	41
12.2.5 OHA, Acute and Communicable Disease Prevention Section	42
12.2.6 OHA, Oregon State Public Health Laboratory (OSPHL)	42
12.2.7 OHA Drinking Water Services	42
12.2.8 OHA, Environmental Public Health – Foodborne Illness Prevention Program	42
12.2.9 OHA, Public Information/Risk Communication	42
12.2.10 Oregon Department of Energy	43
12.2.11 Oregon State Fire Marshal	43
12.2.12 Oregon State University, OSU Radiation Center and Radiation Safety Office	43
12.2.13 Oregon Health Sciences University	43
12.2.14 Oregon Office of Emergency Management	43
12.2.15 Oregon Poison Center	44
12.2.16 Oregon Department of Agriculture	44
12.2.17 Oregon National Guard, 102 nd Civil Support Team.	44
13 Vulnerable Populations	44
13.1 Center for Disease Control Table 1. Potential Health Effects of Prenatal Radiation Exposure ..	45
14 Isotopes of Interest.....	47
14.1 Isotopes of Interest: Properties, Treatment, and Fact Sheets	47
14.2 Table 1: Radionuclides of Concern	51
15 RadResponder - The National Standard	52
15.1 Partnerships and Data Management	52
15.2 Capabilities	53
15.3 Contact RadResponder 1-202-646-8269	53

Center For Health Protection Radiological Response Plan (Cont'd)



NEW BUSINESS

COVID-19, Travel Restrictions Lifted and PSOB Open

Hillary Haskins



- PSOB/state buildings public re-opened
- Inspections still being announced
- X-ray emergency use still in effect:
 - [Information Bulletin 2020-03](#)
- RML Temporary Modification to Specific Rule Requirements (COVID-19) has been retired:
 - [Information Bulletin 2020-02](#)



PSOB (Reduced Footprint) – RPS Hybrid Model

David Howe

MANDATORY RAC MEMBER TRAINING

- Online required trainings for state-level boards and committees
- “Discrimination, Ethics and Privacy (on-line courses)”





Resumption of In-Person / Hybrid RAC Meetings (Discussion)

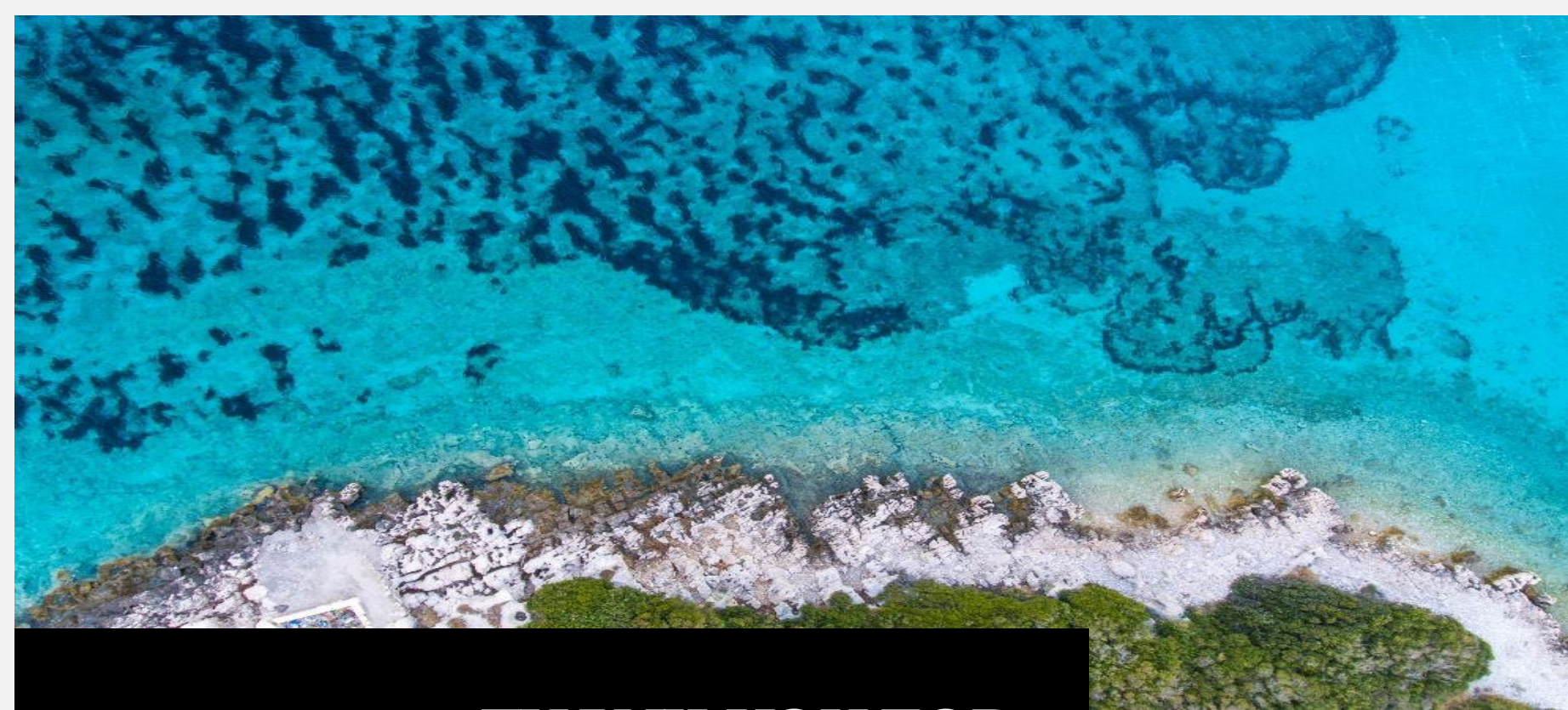
David Howe

2023 NEW RAC MEMBER REPLACEMENTS

Radiation Advisory Committee
Membership
01/01/22

Name	*First Term	Second Term	Third Term	Comments
Frankel, Jennifer	01/01/21-12/31/24			
Cyman, Juliana	01/01/15-12/31/18	01/01/19-12/31/22		
Berry, Bob	01/01/20-12/31/23			
Henrikson, Mandy	01/01/17-12/31/20	01/01/21-12/31/24		Vice Chair- 2nd term 01/01/21-12/31/22
Hamby, David	05/07/20-12/31/23 Replaced M. Krahenbuhl			
Smith, Barbara	07/25/14-12/31/17 Replaced R. Farmer	01/01/18-12/31/21	01/01/22-12/31/25	Chairperson- 1 st term 01/01/21-12/31/22
Wood, Dennis	01/01/22-12/31/25			
Young, Scott	01/01/15-12/31/18	01/01/19-12/31/22		

*May be partial term due to replacing a member. Bylaws state a member can serve two full terms after the bylaws were adopted.



**THANK YOU FOR
ATTENDING**

Next Meeting is October 12th, 2022