ADVISORY
COUNCIL ON
RADIATION PROTECTION

CERTIFIED
TRANSCRIPT

Bureau of Radiation Control

Hampton Inn & Suites

Tampa Airport Avion Park Westshore

Tampa, Florida 33607

Thursday, May 5, 2022

10:01 a.m. - 3:10 p.m

Reported by
Rita G. Meyer, RDR, CRR, CRC
Realtime Reporter and Notary Public
State of Florida at Large

ALL GOOD REPORTERS
CAPTURING EVERY WORD

ADVISORY COUNCIL MEMBERS PRESENT:

Randy Schenkman, M.D., Retired (Chairman)
Mark S. Seddon, M.P., DABR, DABMP (Vice-Chairman)
Rebecca McFadden, RT(R)
Nicholas Plaxton, M.D.
Adam Weaver, MS, CHP
Mark Wroblewski
Jennifer Peterson, M.D.
George Gilbride, R.R.A, R.T.(R)(CT)(ARRT)
William "Bill" Atherton, DC, DACBR, CCSP

FLORIDA DEPARTMENT OF HEALTH STAFF

Cynthia Becker, Bureau of Radiation Control
James Futch, Bureau of Radiation Control
Clark Eldredge, Bureau of Radiation Control
Tim Wallace, Radon and Indoor Air Staff
Brenda Andrews, Bureau of Radiation Control
Kevin Kunder, Bureau of Radiation Control

Guest Lecturer: Moffitt Cancer Center

William R. Gibbons, RRPT, CLSO, RSO

AGENDA

PAGE

RANDY SCHENKMAN: So is everybody ready to get started? We will call this meeting to order. I want to welcome everybody here. Why don't we, as we usually do, go around and everybody introduce themselves. Would you like to start?

REBECCA McFADDEN: Okay. Hi, I'm Rebecca McFadden. I'm from Ocala, Florida. I'm currently the radiologic technologist on the committee and I work for Orlando Health as a cardiology system administrator.

KEVIN KUNDER: I'm Kevin Kunder. I'm with the Bureau of Radiation Control and I'm the materials administrator.

CLARK ELDRIDGE: I'm Clark Eldridge from the Bureau of Radiation Control. I am the radiation machine administrator.

BRENDA ANDREWS: I'm Brenda Andrews from Radiation Control.

CINDY BECKER: Hi, Cindy Becker from Radiation Control.

MARK SEDDON: Mark Seddon. I am the medical physicist representative from Advent Health in Orlando. I'm the RSO and chief diagnostic physicist.

RANDY SCHENKMAN: And I'm Randy Schenkman,

radiologist, retired, and chairman here.

JAMES FUTCH: I'm James Futch, also from Radiation Control. Administrator of the Technology Standards and CE Section where the council falls in the Rad Tech statutes.

TIM WALLACE: I'm Tim Wallace. I'm with the Radon and Indoor Air Program which is not in the Bureau of Radiation Control, but it was a long time ago. We're with the Bureau of Environmental Health and I'm one of your presenters today.

JENNIFER PETERSON: I'm Jennifer Peterson. I'm a radiation oncologist in Jacksonville, Florida at the Mayo Clinic and this is my first time on the council, so I'm excited to be here.

RANDY SCHENKMAN: Welcome.

JAMES FUTCH: We'll try not to scare you off today.

GEORGE GILBRIDE: I'm George Gilbride. I'm the radiologist assistant on the committee here and I'm retired as well, so --

ADAM WEAVER: I'm Adam Weaver. I work at University of South Florida. I'm a health physicist, certified physicist on the board.

NICHOLAS PLAXTON. I'm Nicholas Plaxton. I'm a nuclear medicine physician over at Bay Pines VA.

JAMES FUTCH: Okay. Just a reminder, everybody to turn off your cell phones. We are going to have a change in the agenda. Brenda has to leave early, so after Cindy gives her talk, we're going to decide when our next meeting will be. We can move that up. And anybody who needs to sign, I guess anybody and everybody who needs to sign for their travel vouchers, to do that and we'll give it to Brenda then instead of at the end of the meeting. Okay?

JAMES FUTCH: Brenda, you leave after lunch, right?

BRENDA ANDREWS: Yes.

JAMES FUTCH: There will be time to talk about that.

RANDY SCHENKMAN: Okay. We need approval of the minutes.

BRENDA ANDREWS: And just so we know, Joe Danek sent in comments and those comments were incorporated in the final minutes. Those were the only comments I received.

RANDY SCHENKMAN: Okay. Does anybody have any other comments about the minutes from the last meeting?

ADAM WEAVER: No.

JAMES FUTCH: Okay. So can we make a motion to

approve?

ADAM WEAVER: Motion to approve as corrected.

REBECCA McFADDEN: I'll second it.

RANDY SCHENKMAN: Second?

RANDY SCHENKMAN: All in favor?

ALL: Yes.

RANDY SCHENKMAN: Any opposed?

(No Response)

RANDY SCHENKMAN: Okay. We're good. Next we go to Cindy.

CINDY BECKER: A very short welcome, but welcome everybody. Updates in the last six months, very few of those. We do have a new budget manager for the Bureau. Magdalena Lakin is our budget manager. She will be visiting us maybe at the next meeting. I want to bring her down just to see what we do here, but also take her over to the lab. So that will be, that will be fun.

So we have two new inspectors. One in Fort Myers, Cindy -- another Cindy. It's the first time in almost 35 years we've had Cindy. I'm not sure about that. Yeah. I might have to go with Cynthia or she will. And then we also have Tony is in Sarasota. So they both just started. So if you run into them, be nice at least at first, right? So

they'll be there.

We have a new MQSA mammography inspector. She's been here a little while with us as an inspector, Judy Atkinson, but she just got certified MQSA. She's in the central area. So those of you who have mammography might see her around.

We had the Daytona race in February. We did that one. We also did a couple nuclear power plant exercises. We had the St. Lucie, which was a grade in one, and we had a Turkey Point, which was the first all virtual one. Haven't had feedback yet on that.

JAMES FUTCH: Not only the first all virtual, but the first, I think, employ, all three shifts of dose assessment people, operations people simultaneously working different scenarios with different teams out of Miami/Dade, which was very interesting. Interesting for us. I think we ended up overwhelming the folks at the other end. The technical. In fact, at one point they told me to shut up, so --

(Laughter)

JAMES FUTCH: Not in so many words, but something like that.

CLARK ELDRIDGE: It was, it was an interesting

experience. I won't say it was the best one I've ever been in.

JAMES FUTCH: We do have to give kudos to Neal Battista to having the guts to actually try and do it.

CLARK ELDRIDGE: Yes.

JAMES FUTCH: Emergency manager from Miami/Dade County.

CLARK ELDRIDGE: There seemed to be good successes with it, but at the same time, it was just kind of odd, normally, you know, sitting around the room doing a table top, having a little bit previous experience with those, worked better than this Team system did, but --

JAMES FUTCH: And the kind of emergency response exercise that he -- we attempted to do was the more complicated, I won't call it ingestive pathway, but out fifty miles instead of the ten mile one, so it involved some of the dose assessment issues and a lot of the local law enforcement and other folks who know where the schools are and the other facilities that you may have to move separate from the regular population.

And I'm not sure Jennifer understands when you say about the Daytona race. We weren't really

intending to watch it.

JENNIFER PETERSON: I didn't --

GEORGE GILBRIDE: They were driving the 24 car.

CINDY BECKER: We don't even get to watch it. Are you kidding? No. It's our monitoring and surveillance that we do for what they call PRND. Preventive radiological nuclear detection events. So all the large-scale events that happen in Florida. The Superbowls, the races, inaugurations, several different events. Boat show, air show.

JAMES FUTCH: Anything that would be a target for something trying to use Radon.

RANDY SCHENKMAN: Are you going to the car races in Miami this weekend?

CINDY BECKER: No.

RANDY SCHENKMAN: No?

CINDY BECKER: I guess it's not a big enough event on the scale of things.

MARK SEDDON: Who determines that criteria?

RANDY SCHENKMAN: This is going to be enormous.

CINDY BECKER: Enormous.

GEORGE GILBRIDE: So you cover the bowl games and stuff here in Florida as well?

JAMES FUTCH: We don't do everything.

CINDY BECKER: We did Tampa Bowl, Miami Bowl.

JAMES FUTCH: The way it works is the Federal government has a rating criteria. And strangely enough, it has an acronym and a bunch of numbers associated with it. I won't go into it because I can't remember what they mean. But there's a rating system and if it's something like a presidential debate or something like that that they hold in Florida, they'll bring the federal assets down who actually trained us a long time ago. And if it's anything less than that, at this point, Florida has a relationship that if anyone's asked to do that, we'll go and assist them.

Doing this as many years as we've done it, the local law enforcement folks have been trained, often by us, to understand how to use radiation detection assets. So we're filling in where we need to. And, and usually, we're invited. And if we don't have to go, it's perfectly fine.

You'd think that doing the Daytona 500 for how many years? 2007 to now, 14 years, you wouldn't run out of staff who just want to go and volunteer for, you know, a week-long event. We've long since exhausted all the NASCAR fans, all of the -- everyone else. And it's actually getting hard for John to get volunteers. We usually take a crew of

seven to ten to Daytona.

CINDY BECKER: Yeah.

RANDY SCHENKMAN: I'm surprised you're not coming to Miami.

JAMES FUTCH: Well, probably the right people just have to ask. And we can't force ourselves on the local law enforcement if they don't want help and assistance.

RANDY SCHENKMAN: Interesting.

JAMES FUTCH: It doesn't work out well. They carry guns; we don't.

RANDY SCHENKMAN: I understand that. I'm just surprised.

CLARK ELDRIDGE: But we are asked to go up to a suspicious package and say, tell us about that. So, you know.

CINDY BECKER: Then they might want you to show up.

JAMES FUTCH: And actually, one of our administrators who's not here today, John Williamson, is located in Orlando. Has the radiation, radio chemistry lab, nonemergency response and the PRND program. We brought him here to the council two or three, the last one with some gear he demonstrated.

RANDY SCHENKMAN: Last time.

MARK SEDDON: Last time.

JAMES FUTCH: And then I think at least twice before that going back a number of years.

CINDY BECKER: Right.

ADAM WEAVER: And don't some police vehicles just travel around the state have detection equipment always on?

JAMES FUTCH: A lot of the motor carrier compliance part of FHP, the ones who stop the big rigs and check the weights and things like that, a lot of their vehicles do. Large volume sodium iodine detectors, four by four by sixteen, and usually two or four sets. Occasionally neutron detection, too. All of the -- not all. I shouldn't say that. A number of the bomb squads, EOD people in the Sheriff's offices have smaller detectors that are able to not just detect gamma like normal equipment, but also analyze the spectrum and identify the isotope.

In fact, we were testing one of the first FHP systems, probably in, in 2010, I think. And you know, the little nuclear medicine calibration standards, looks like a little vial of latex, 100 microcuries.

ADAM WEAVER: Vials I think they still call them.

JAMES FUTCH: I had one of those. They were doing acceptance testing and wanted us to look at a couple manufacturers and help them figure out which one to buy.

My take away from that is, the one they ended up buying, that little vial, they could be going down the road at 90 miles an hour from two lanes of traffic away, not only would it see a blip in the gamma background, but it would I.D. the isotope. So it's a pretty spiffy system.

RANDY SCHENKMAN: Wow.

GEORGE GILBRIDE: That's impressive.

MARK SEDDON: I think those systems, it's hard to read because it's a small readout on those little hand outs.

JAMES FUTCH: It's small, for sure.

NICHOLAS PLAXTON: That last one you showed us that connects to your cell phones.

JAMES FUTCH: Yeah, that was the backpack, right? The backpack system?

REBECCA McFADDEN: That was pretty neat.

JAMES FUTCH: That one had two, three by three crystals in it and a whole bunch of Helium-3 for

neutron detection. Those are pretty nice.

CINDY BECKER: So we have another race coming up. Coke 400 in July.

CLARK ELDRIDGE: August.

JAMES FUTCH: Hot.

CINDY BECKER: I don't know if there's, in the next six months, if there's anything after that. There might be the boat show again, which last time, it --

JAMES FUTCH: Fort Lauderdale?

CINDY BECKER: Yeah, the Fort Lauderdale boat show. They call it a boat show. It's really yachts. Million dollar yachts, but that's an international.

JAMES FUTCH: Somebody mentioned Formula 1. Is that coming to Miami?

RANDY SCHENKMAN: That's the one that's coming next week.

JAMES FUTCH: Yeah, if I'd have known this, I would've volunteered for that one because I like Formula 1.

RANDY SCHENKMAN: Oh, yeah. This is going to be amazing.

ADAM WEAVER: There's going to be a lot of people.

RANDY SCHENKMAN: And there's a lot of people coming, so I'm surprised they didn't --

MARK SEDDON: That's true. Didn't trigger the --

RANDY SCHENKMAN: -- ask you guys. Nobody asked.

JAMES FUTCH: Miami is -- in the Federal government scheme of Homeland Security, Miami became a secure city a year or two ago, which means they have their own funding stream direct from Homeland Security. So when that happens, I've seen this happen in different places around the country where I teach. The local region becomes much more self-reliant and much, much -- doesn't need to go outside their region as often for assistance and help. Miami was kind of a little bit like that to begin with.

RANDY SCHENKMAN: Have you guys ever found anything at these events?

JAMES FUTCH: Let's see. Countless nuclear medicine patients.

CINDY BECKER: Patients. Lots of patients.

JAMES FUTCH: We detained a contaminated physician who didn't know he was, who was working at Daytona in one of the charity, like the school hot

dog whatever.

CLARK ELDRIDGE: Hot dog thing.

JAMES FUTCH: And so they tracked him down and I'm sure some education took place.

NICHOLAS PLAXTON: What was he contaminated with?

JAMES FUTCH: He was like, either Tech or Thallium. It was back during when we had the shortage of the Tech.

CLARK ELDRIDGE: I thought it was Iodine.

JAMES FUTCH: Was it Iodine?

CLARK ELDRIDGE: Yeah. That one one of the things. It was the person serving hot dogs.

ADAM WEAVER: That was a good mix.

JAMES FUTCH: Well, that didn't take long or two.

GEORGE GILBRIDE: Get a hot dog, get a scan.

JAMES FUTCH: How would you like to be the physician who gets caught by the Department of Health, not only when you're contaminated when you shouldn't be, but you're serving hot dogs for the children.

NICHOLAS PLAXTON: Yeah. For charity.

JAMES FUTCH: That would be a little embarrassing for the Radiation Safety Committee,

right?

RANDY SCHENKMAN: I would say.

NICHOLAS PLAXTON: That was a nuclear medicine physician? You don't remember?

CLARK ELDRIDGE: The person was under treatment.

JAMES FUTCH: He definitely had a reason to --

ADAM WEAVER: Oh, he was in treatment.

CLARK ELDRIDGE: He was in treatment.

MARK SEDDON: It makes sense.

NICHOLAS PLAXTON: Got it.

CLARK ELDRIDGE: He was a patient who was not supposed to be doing what they were doing against the advice, the standards for --

ADAM WEAVER: He didn't read the exit instructions.

MARK SEDDON: Patient instructions weren't followed.

RANDY SCHENKMAN: Or somebody didn't give them to him.

MARK SEDDON: That, too.

JAMES FUTCH: We find nuclear medicine patients, different facilities, lots of either naturally occurring material in certain parts of the race track ones.

CLARK ELDRIDGE: Yeah. Race tracks have got several spots that are hot.

ADAM WEAVER: Warm?

CLARK ELDRIDGE: Yeah.

CINDY BECKER: The women's bathroom.

JAMES FUTCH: There was a gentleman who came to the Superbowl in 2009, I think it was in Tampa. It's my first Superbowl. And he had -- we didn't know. Cindy was working the gate with a backpack. And we had the serpentine lines down the street on Dale Mabry inside the gate, where several of us were arrayed with smaller devices. So she gave the signal and said there was a gamma signal, so we would figure out who it was in the crowd and pull him out of the crowd.

By the way, the law enforcement guy was well downstream of the metal detectors. And this gentleman who we find out later had just had his thyroid ablated the day before. He was, he was smoking. When we went to -- we didn't have any trouble with every detector picking him up, as I recall. The opposite problem occurred which was, we couldn't use the grid and it kept swamping the detector and we had a whole bunch of dead time. So I think we had to back up to, like, three meters

away from the guy to be able to, to read the spectra and figure out what he said was true. Either that or he's not the brightest terrorist in the world.

(Laughter)

CINDY BECKER: They've all been really compliant when they're stopped by us instead of law enforcement is probably a bit more threatening anyway, yes.

So the only other updates, we've got some medical events that Clark usually talks about that's happened in the last six months, so I don't want to steal his thunder.

JAMES FUTCH: 2:15 this afternoon.

ADAM WEAVER: After lunch.

CINDY BECKER: I don't know if Brenda, you were going to jump in and do anything with the travel.

BRENDA ANDREWS: Well, before you are your travel authorizations and the two sign-in sheets where I do your reimbursements.

All of those just have to be signed and dated and then returned to me before lunch or during lunch. Some of you have already turned those in. So if I could get those back, then I can do your reimbursement when I get back to Tallahassee.

The other part that we normally do in the

afternoon is decide on the next meeting. And because Cindy and I both have a meeting around 2:15, and that's going to interfere with me being able to do that in the afternoon, we're going to do it now. So I have -- right behind your agenda, there's calendars for September, October and November for us to discuss the best date for the next meeting.

JAMES FUTCH: Traditionally, we do this toward the end of September or the beginning of October.

BRENDA ANDREWS: Mm-hmm.

JAMES FUTCH: And also by tradition, we usually do it either on Tuesdays or Thursdays. And I think the past couple meetings, the members have preferred Thursdays, but there's nothing hard in stone, I think, about that. And we also don't have many members present.

So I think usually we look for the -- any society meetings, professional meetings, vacations, kids are in school. Football's in season, did I mention? No Saturdays.

RANDY SCHENKMAN: So does anybody have a preference for the end of September or beginning of October?

JAMES FUTCH: The 22nd, Thursday, or the 20th, Tuesday? September.

BRENDA ANDREWS: This is in September?

ADAM WEAVER: September.

JENNIFER PETERSON: I like both of those.

REBECCA McFADDEN: I like Thursdays. The 22nd.

RANDY SCHENKMAN: Anybody else have anything? So do you think Thursday?

ADAM WEAVER: Thursday, the 22nd?

JAMES FUTCH: Thursday, the 22nd?

BRENDA ANDREWS: Yes, we can do that. And what I will do is send it out so that all the council members, the ones that are not here today, will see that date and see if that works for them and give you all feedback.

RANDY SCHENKMAN: Okay. That sounds good.

Okay. Tim? Okay. So this is Tim Wallace and he's going to update us on Radon.

JIM WALLACE: When was the last time you were presented on Radon?

JAMES FUTCH: Ever? You don't count, Adam.

ADAM WEAVER: I don't count. Sorry.

JIM WALLACE: See if this works. All right. Yeah. So everyone here has heard about Radon, of course, right? But how many of you have tested your home for Radon? Can I see a show of hands?

(Show of Hands)

JIM WALLACE: All riht. I see about half of you so far. How about you in the back? Test your home for Radon? No? All right. Yeah, in the back.

All right. So I'm Tim Wallace. I'm a registered sanitarian, an old school health inspector and a certified environmental health professional. I come from the Bureau of Radiation Control -- actually, no. I'm sorry. The Radon program started in the Bureau of Radiation Control, and it may have been a name before that. I think -- oh, I got it right here. It actually was called, at some point in time, Central Operations Services Radiological Health Services, right?

JAMES FUTCH: Yeah.

JIM WALLACE: Probably long before any of us were here.

JAMES FUTCH: I think it was part of John Williamson's environmental section.

JIM WALLACE: Around 1992, the Radon program was separated from the Bureau of Radiation Control in the Department of Health and Rehabilitative Services, and they were combined with an indoor air professional and Florida Clean Indoor Air Act team. And we were put in the, in that time, the Bureau of Environmental Toxicology. And there's been a number

of reorganizations over time. And we are currently with the Bureau of Environmental Health and Public Health Toxicology section.

Michelle Dale is our administrator. Patrick Connor and Alex Boudeau (ph) are technical specialists and also, this presentation was also created with Joseph Kidder who does our certification program and our webmaster and a lot of general Radon stuff. I was hired on, basically, to do indoor air quality for the program.

So what is Radon? We all know about this. We can probably skip through that pretty quick. Why do we care about it? Some Florida issues; what regulations do we have? How does it enter buildings and behave? How do we measure it? What are the measurement protocols and how do you fix Radon in buildings and investigate it?

So first of all, what is Radon? Naturally occurring, noble gas. You can't see it, smell it or taste it, but since it's radioactive, we're concerned about it. It's from the radiation -- radiological decay series coming from uranium and radium. We have an inexhaustible supply of it in the plants below us, the rocks and the soil. But I'm going to skip through this ionizing radiation,

alpha radiation coming off the atom. And this is the one that we're concerned about inside our bodies.

We measure Radon in picocuries per liter of air as opposed to the international system, which is becquerels. And basically, we have about 2.6 liters of air in our lungs and, you know, about 3.2 million radioactive decays occur per year in our lungs and that's just from Radon alone. It's not from the Radon decay products.

So you can think that there's a lot of stuff. And the way I tell people, the general lay public about this is this, you know, it's a lung cancer lottery and the more Radon you're exposed to, the more tickets you have to that lottery. You don't want to win that.

So when we look at Radon at the action level that was established by the Environmental Protection Agency, I believe that was in 1988, is that right, Clark? Clark is also a person who's been in the Radon program for quite some time. Since what, '88?

CLARK ELDRIDGE: I was there for 28 years.

JIM WALLACE: And I believe this is 1988 when this was established by the Environmental Protection Agency as an action level. Not necessarily free of

risk, but a level that we had a compromise between risk and benefits and costs. But at four picocuries per liter, looking at the annual dose, we're looking at it at about 63 percent of the annual dose of all causes. And this is -- came from Report 19 -- no, 170, from NCRP. The National Council -- I have to -- National Council on Radiation Protection and Measurements. And they have these online. And we've adopted this based on this and also Beir VI report from the National Research Council.

So if we were to promote Radon resistant policies construction and say, let's get it down to the average indoor level of 1.3 picocuries per liter. So the average across the nation, that we can reduce that down to about 37 percent of our annual radiation dose. However, if we were actually to get it down to the federal goals, which are no higher than outdoors, then the national outside average is .4 picocuries per liter. So if we were able to get it down to that, we can really shrink it down quite a bit. And the annual dose is quite low. It's almost half of -- actually, it's more than half.

Now, this is, you know, this is a lofty goal, but this is what is put in the 1988 Federal Radon, I

want to say Mitigation Act, but I'm not sure.

CLARK ELDRIDGE: Abatement.

JIM WALLACE: Radon Abatement Act by Congress.

So this is the -- but you know, this is kind of interesting. While this is an average and Clark did, Clark and Mike Phillips did a lot of research on this in the Ocala area where they were finding weird spikes of high levels of Radon outdoors as high as -- what was the level?

CLARK ELDRIDGE: 30.

JIM WALLACE: 30 picocuries per liter spikes in the Ocala area outdoors. Mainly at night, right?

CLARK ELDRIDGE: Right. Basically around midnight, when the air settled down and the temperature inversion would kick in, the Radon levels near the ground would start increasing from normal exfiltration out of the ground and there would be no dilution to mix. So starting at midnight, going to about five a.m. in the morning, it would rise. Normally it would peak around 10 to 11, 12 picocuries per liter. Then one time, this was -- it went as high as 30. And this, we did this -- we went down there once a quarter for five quarters and placed outdoor monitors in one particular neighborhood. It was also a slightly

bowl shaped neighborhood. There was sort of a historical sink there that had been filled in.

We were doing soil borings with hand augers to do some sampling and it was near the top. The soil was maybe six inches deep before you hit a very thick gray clay that you just couldn't cut through. At the bottom of the area, we went 16 feet down on a hand auger, cut through butter is how easy the dirt was, which is black dirt all the way down to the extent we could with the hand auger we had.

JIM WALLACE: And you know, it's kind of interesting that the national goals are no higher than outdoors. But the -- kind of a long way to go if our action level by the EPA is four, which is ten times that.

CLARK ELDRIDGE: One other thing. We did some modeling on that Ocala location. And if you looked at average inful -- exfiltration rates, breathing rates of buildings, that it, on average, even though the spikes were, tend to be even as high as 35 picocuries per liter, it wouldn't increase the indoor average rate on level more than one picocurie per liter if you were just looking at the natural air exchange and not infiltration of Radon from the soil. Just breathing through the walls and the

windows. The normal windows closed; AC running.

JIM WALLACE: While I was preparing for this presentation, it dawned on me that this slide is woefully inadequate. And I have one slide for Radon history. And the history is very rich; varied. There's a lot of information that goes back centuries. And -- but this is the one thing that kind of brought this problem to the public's mind as a public health issue. It also convinced the Environmental Protection Agency that this was a nationwide problem, not just a problem in Florida in phosphate lands. And so that's going back to history in our files, we have reports about studies of Radon daughter concentrations and structures in Polk and Hillsborough Counties, which was a report from January 1978. This was 1984.

And they also were looking at it in Colorado and I believe it was tailings from uranium mines, homes built on those, so they were looking at that there as well.

But this is what brought it into the public's eye, all the newspapers, EPA. I mean, it was a, it was quite a big study. They went on from this to study it elsewhere across Florida.

There's another report here from EPA,

Demonstration of Remedial Techniques against Radon in Houses in Florida and Phosphate Lands. And this is from July 1983. Before Stanley Watras.

So who is Stanley Watras? He was a worker at a power plant. The Limerick Power Plant in Pennsylvania. And they were -- this power plant was under construction at the time. And he was actually going to work, leaving as they were setting up the portal monitors to monitor for contamination. He was setting them off. They would laugh at him. They'd make fun of him. They'd say, hey, you're crazy. They didn't know what was going on. No one could explain it because they didn't have any nuclear materials at the site at the time.

But then he would actually set it off going to work as well. Not just leaving, but going to work. So he made a lot of inquiries to his employer and at first, they kind of blew him off. But eventually, he kind of went up the chain and says, I'd like to know, we need some help. I need your help to look into this.

So they sent some technicians to his house and they found very, very, very high levels of Radon in the house. 4400 picocuries per liter; 22 working level. And this kind of set off the radiation, kind

of the alarm bells and they brought in the Department of the Environmental Protection or the equivalent in Pennsylvania, who also called it the EPA, and they started looking at this widespread. They went next door and the house was less than one picocuries per liter. A lot of variation going on.

They eventually did after, you know, working on this, looking at some of the stuff from Florida, Colorado, and they actually fixed this house and got it below four fairly easily. It did cost about $32,000 at the time to fix it. But he moved back in to this house after a time. But that was kind of a watershed moment.

So why do we care about Radon? It's the second leading cause of lung cancer deaths in the United States. About 21,000 estimated annual deaths from the EPA. The number one cause of lung cancer for nonsmokers. If you look at, basically, the total number of lung cancers, it's estimated by in the Bier VI report, to be about 14 percent of the total.

Now, this risk can be minimized. And it's felt that all Radon-induced lung cancers deaths are preventible.

Now, there's a number here, about $6.8 billion of lung cancer mortality. I was looking into this

number. I'm trying to figure out how did we calculate that? And I will tell you that I found some interesting things here.

So updating this, I was looking at the Congressional report, estimated cost for lung cancer care. For 2022, that's about $23.8 billion. So 14 percent of that would be about $3.3 billion a year. Of course, the problem with lung cancer is it has one of the lowest survival rates of most of the cancers out there.

Also, if you look at lost productivity cost, there's another study that, that kind of implied about $5.46 billion of lost productivity for these deaths. People no longer producing in the economy.

So as we know from, you know, the breakdown of uranium, there is a long decay chain. And the fast ones are the blue ones here. Radon has half-life of 3.8 days. It's a gas. It's basically escaping from the soil and the rock below us.

And then it -- there's a couple of Alpha emitters, Polonium-218, Polonium-214, that have very fast half lives, short half lives, and these are the ones that are producing the Alpha radiation that we're concerned about. And if it's inside your lungs, it's not good.

So when we're talking about Alpha radiation, we're talking about a Helium nucleus being injected high speed, lots of energy. But the Radon decay products, things that it turns into, the Poloniums, for example, they don't act like gasses any longer. They act more like aerosols. And they arc. They have charges and they're attracted to surfaces and dust. And this is really how that Stanley Watras was -- how he was showing up at work, you know, hot, as you said, smoking, is because of the Radon decay products that were plating out on his beard, on his clothing from his house.

CLARK ELDRIDGE: Also if you remember at that time, most of your clothing was polyester. So a lot more reactive with charge particles.

JIM WALLACE: Right. And you know, if it's attracted to dust in the air, then you breathe in that dust, then that dust does collect in your lungs through the mucus and the ciliary action and then it's going through the radioactive chain in your body. In your lungs.

We don't have any skin in our lungs. There's nothing to stop that Alpha radiation, although outside wouldn't be an issue.

So I'm -- I'm going to skip this part. And we

kind of know about the Alpha radiation in our lung cells doing damage, either directly or indirectly, through ionizing radiation through the cytoplasm itself, or actually direct impacts on the DNA. That DNA damage might be repaired. No big deal. That cell may die. Still not a big deal. You can replace cells. But if those cells are damaged in such a way that they can't put themselves back together correctly and we have a mutant growth, then we're having the potential for cancer.

And this is a risk over time of millions and millions of disintegrations in our lungs and the Alpha radiation. So that's what we're looking at. We're not just looking at an hour or day or a week. We're looking at years of exposure. And long term is more interesting to us.

So when we look at risk in terms of cancer related to Radon versus pesticides in foods or outdoor air pollutants or hazardous waste sites or pesticides, Radon is really up there in the 21,000 lung cancer deaths per year category. And we look at causes of death as opposed to drunk driving, drowning or second-hand smoke, which is around 3,000, or home fires, is still quite high.

And there's been some renewed interest, you

know, there's a lot of interest in the 80s and 90s, perhaps even the 70s -- kind of spotty in the 70s. But recently, around 2018, there was -- sometimes I think the media, they kind of find a story and they go out and replicate it elsewhere because, hey, they did this in Minnesota. Let's do this more in Florida. So they did. So they started pestering schools, like why are there no results for testing of Radon in your schools? We're going to get to this later, why that's important.

And they did a whole week-long series of pestering the school administrations. Why don't you care about your children and why are there no testing results?

And then I believe eventually, there was, you know, lawmakers say, hey, this is a big deal. We're going to do something about it, and then you never hear from them again.

At this point, other local stations in the Tampa area were picking it up because it was making a lot of headway and drawing a lot of attention. Then other places in the state were then also seeing it and doing their own little stories. So sometimes this does pick up a lot of attention.

There was an apartment complex in Palm Beach

County that did have a lot of interest in Radon. They were concerned that they weren't told about the Radon levels. We've had that in other parts of the state as well.

More recently, FSU was in the news because the faculty had done their own Radon testing. Had done mold testing and they were concerned because they saw, you know, people had cancer, different types, and they were concerned about it. So they brought it to the attention of management and then also to a local political reporter and he put it online and then it exploded from there. And they eventually, pretty quickly they ended up closing this particular building due to their concerns. And they went ahead and did a lot of Radon testing. But this time, they used one of our certified Radon professionals so that they could rely on the results. And Joseph was directly involved and kind of did a walk through with them on this.

So we were consulted and we were asked about, questions about mold and Radon, and we provided our advice.

They're not required to test, though, in a university setting. So that -- under state law. Now, K through 12 you are, but not in universities.

So it is classified as carcinogen by the World Health Organization -- International Agency for Research on Cancer. By the Department of Health and Human Services. By the Environmental Protection Agency. The recommendation, and even the Surgeon Generals, the U.S. Surgeon General says test all homes for Radon. And again, the action levels is at greater, at or above 4 picocuries per liter. WHO has a slightly different number at 2.7 picocuries per liter. That's the World Health Organization.

And then ALARA standards, set in the Florida Administrative Code, are as low as reasonably achievable ALARA. And Health Canada has a higher number of 5, at or above 5.4 picocuries per liter.

So in Florida, there was early, I believe this was in the 80s, Clark, or the early 90s, they developed a map of Radon potential. This was kind of designed for, if I remember correctly, to help with deciding about requiring Radon -- you know, building codes and trying to require Radon-resistant construction. So they did identify some Zone 2 counties in Florida. Most of them were developed as Zone 3, lower potential. But no Zone 1s.

But we were looking at our own data, because we certify professionals to do Radon testing. And

they're required to report their data to us and we've kind of found more information about this.

But not every, every county has been tested that we have data for. And depending on the region, the levels are either, you know, between 1 and 70 percent of buildings tested have elevated Radon. And we have found unusual situations where Radon levels are high in highrise buildings, 23 floors up in a condominium. When you think, well, hey, where's this coming from? It's obviously not the ground, right? And Clark was involved with investigation on that as well. And I think the determination was building materials, right?

CLARK ELDRIDGE: Highrise buildings, with energy efficiency standards and hurricane wind load standards for penetration requirements on buildings, you're basically living in a concrete cave that high above ground with air exchange rates less than 20th of an air exchange per hour, where actually another standard suggests it should be more like a third for contaminant control and indoor air quality, your air exchange rates.

And so it's just that it's a tipping point. You just get the building built so tight that the amount that's coming out of your concrete or other

earthly materials in the building is enough to raise the Radon level above action level. I think the highest we've had was a 26 -- that was -- yeah. 26, at one time when I was looking at the data, the highest Radon level we had in a highrise condominium was about 26 picocuries per liter.

JIM WALLACE: So this is a map and you also see it here on our windsail or flier, about where is our Radon data from the certified Radon professionals. You see in Leon County, we had a little cluster there. Ocala, Gainesville area. All along the east coast. And then, of course, in the central west coast region. And, of course, Polk County is right there. A lot of phosphate lands in here. Naturally occurring radium in the soil.

CLARK ELDRIDGE: It pretty much follows the population of Florida. Where the higher population is, you'll have higher testing.

JIM WALLACE: So you'll notice the yellow there is more testing is needed. There's just not a lot of information in these areas and so we can't really categorize whether they have high or low risk. But we've also color coded in terms of 10 percent, 20 percent, 20 percent to 25 percent, 25 to 33 percent, greater than 33 percent. So greater than 33 percent

are these one, two, three, four, five, counties, I believe.

Here's a look at some of the data. We were looking at the data from 2007. And in 2007, we had a total of -- in these ten counties, we had a total of 70,000 test results and about 21 percent, 21.1 percent of those levels were at or above the action level of 4 picocuries per liter. Again, it's not a safe level. It's kind of a cost benefit analysis result. And of course, if you want to get it down to ALARA, then probably one hundred percent of these are over outdoor levels or close to it, would be my estimation.

Now, if you look at an updated, freshen these numbers in 2021, we're looking at 265,000 results. And the numbers are kind of steady. It went up about .7 percent that are over. But our leaders are going to be in this case, Marion County at 42.9 percent; Alachua and Broward as two and three.

But, you know, another interesting thing is there's not -- there's some counties that don't have a lot of testing at all. Like Hardee went from 3 to 20 and their numbers dropped by nearly half in terms of over. But that's such a small number, sample. Sample size.

And Columbia is also another one that also had just a, you know, twice, but that's really a small number. Collier really jumped up. They went from 8,000 to 53,000 test. Did you have a comment, Clark?

CLARK ELDRIDGE: Yeah. One thing about Collier and Broward is that I don't -- Broward, I'm assuming it might be the same for Collier -- is the Radon result, elevated Radon result is primarily in multifamily construction, apartment buildings, you know, and condos. Since Broward County, about 50 percent of the residences or more are in multifamily, and the -- at one point, the elevated Radon rates of those was around 40 percent. So 40 times 50 gives you 20 percent of the housing there elevated in Broward.

So -- but it's been a while since I looked at that data, so I can't remember exactly where the 31 and 29 is coming from, but again, it was, almost all of it was in multifamily construction.

JIM WALLACE: Does anyone have any questions about this data here? And again, this is from our certified Radon professionals.

JAMES FUTCH: Tim, I had a question or comment.

JIM WALLACE: Go ahead.

JAMES FUTCH: You or Clark. You were talking before about the building codes and the newer construction acting to retain more of the air and less airflow.

So in a place like Miami/Dade, where you have the hurricane standards and the rest of that, could that be a factor in perhaps, and to compare them to, like, some place up in the middle of Florida, for example? Same kind of type of building but one's built to the Miami, you know, kind of standards and one's not. Could that contribute to the difference in the -- all other things being equal?

CLARK ELDRIDGE: For the multifamily?

JAMES FUTCH: Yeah.

CLARK ELDRIDGE: Very well.

JIM WALLACE: So as far as the state Radon program was started in 1988 officially. Even though there was a lot of action in the 1970s, up until 1988 by the Department of Health and Rehabilitative Services, HRS, the predecessor of the Department of Health, then it was codifying the law and there were some aspects of it.

Consumer protection, we certified individuals and businesses. Provide either measurement or mitigation, which is also fixing homes or buildings.

Public information and education, like I'm doing today. Going out and reaching out to professionals and the public and saying, hey, test your home for Radon, please.

Radon data compilation. So we provide -- we collect the data from these professionals. And also, there's a mandatory testing of licensed facilities in Florida. K through 12 schools. And 24-hour care facilities that are licensed, operated or regulated by the Florida -- by the State of Florida.

So you know, nursing homes, daycare centers, childcare centers, assisted living facilities, detention facilities, they're all required to provide Radon testing to us. We have more details here.

And we also have a requirement in the statute that we develop Radon standards and protocols. And those have been developed in our administrative code, Florida Administrative Code. And there's a requirement for real estate disclosure, not testing. You just have to have this statement in a document in a real estate transaction. Either through sales or rental contracts.

And of course, there are other parts of the

statutes that deal with indoor air quality, kind of what I focus on mostly.

So this is the statute, Chapter 404 -- Section 404.056. That's where you find it. And the Administrative Code is 64E-5, Parts X and XII. And then from that is the authorized mandatory testing protocol document, which spells out how mandatory facilities, how they test for it and also how the certify professionals have to test.

RANDY SCHENKMAN: Do they test at hospitals? Is that required?

CLARK ELDRIDGE: Hospitals are required.

RANDY SCHENKMAN: They are? Good.

CLARK ELDRIDGE: Generally, there's only one hospital that I remember any -- well, two that had any questions. One in Miami. We think it was because it was next to the nuclear med -- the testing results, and so there was some -- why can't I say the name of it. I can't say the -- it was inhalation location for inhalation therapy and we don't -- we think the testing equipment couldn't differentiate.

The other one was in Ocala. And in this case, the Radon levels were three, which you think about the ventilation rate in a hospital and the

requirements for ventilation. The fact there was actually anything above getting close to the action level in a hospital building must have meant that hospital had some significant Radon source around the foundation and whatnot that the fact it was actually even -- it wasn't above the action level, but it was actually noticeable.

GEORGE GILBRIDE: There's only three hospitals within Marion County. You figure two of them sit right across the street from each other. It's kind of scary when you think how that area would be affected with that.

CLARK ELDRIDGE: It was just kind of odd that all the rest of the hospitals were, you know, under two or outdoor ambient air type levels.

RANDY SCHENKMAN: What did they have to do with that one?

CLARK ELDRIDGE: Nothing. It was under the action level. So it was no --

JIM WALLACE: And that's a great question. What do they have to do about it? Nothing. They have to report the levels to us at the health department, but they are not required to mitigate, no matter what the levels are, right, Clark?

CLARK ELDRIDGE: Right. A particular county

had some elevated levels in their buildings -- actually, this was a pattern of a couple different counties. And they would test -- since they didn't necessarily have to report all their testing, they only had to report the tests at a certain period. They would fix them and retest and submit the post mitigation results as their official results to the Department. We found this out when they actually submitted all their raw data tables with their report, so here's the set of reports on the form and here was the additional testing they submitted, the whole history of all the test results from the lab, that included all the previous tests that they did, that were 25 and what not picocuries per liter in the schools, but they didn't bother to officially notify us.

That happened in a few counties around the state. And another county they actually would report it, and then come back and say, oh, we didn't do the mitigation. And they'd test the building again and when it came back low, they'd report to us, we didn't test right the first time. They had to do this five times before all of their schools ended up being below four in the results.

Were they really fixing things? I don't know.

But that's -- they probably were. They're probably trying to do some air ventilation rate adjustments and stuff, but they did this five times, up to five times at some of the schools before all them were below four.

MARK SEDDON: For large buildings like hospitals or schools, is there standards for us how they choose, how -- like how many rooms or areas they test? Because when I was in a hospital, air exchange rates vary for different departments at different times in the rooms. It makes a huge difference.

JIM WALLACE: And we're going to get into that.

MARK SEDDON: Okay. Cool. Perfect.

JIM WALLACE: It's part of our mandatory Radon testing protocols, how you choose what rooms to do and it's kind of a percentage of building -- of rooms.

MARK SEDDON: Very good.

JIM WALLACE: And you know, FSU is not required to do testing, but we advised them of what our mandatory Radon protocols were and then they hired someone to do it. And that person had to follow those protocols. So just because that's -- they were required by us to do it. Not the FSU, but the

professional they hired.

Oh, I was going to talk about this real quick. So this is the -- this is the language that's required by law in those documents. It doesn't say anything about telling people what it is or telling people they need to fix it. It's just, hey, it's here. It may cause health defects. They may exceed federal/state guidelines; if you have questions, call your county health departments. Usually they call us in Tallahassee.

All right. So we are allowed to establish rules for the certification and the mandatory measurements and these are the folks that we -- the categories that we certify. And Joseph is the man who handles most of this action here.

CLARK ELDRIDGE: One difference, if you notice, about the Radon authority versus most other authorities for professionals. Because Radon was not really an established industry or whatever at that time when this statute was done, the state actually said the Department of Health has the authority to tell people how to do their job. Specifically, how they're supposed to perform their services and do things. Unlike the rest of it, everything else, it's like, the radiation protection

standards for x-ray, a lot of that is performance-based standards and things like that where we tell -- where the industry is the one who has to determine what is the procedure and we turn around and go, did you actually get the job done using your procedure?

But in this case, the state actually said the Department of Health has the authority to establish the procedures. It was just because there weren't any formal procedures, there was a very limited industry out there looking how to do that and stuff like that. So that's a little different twist on the regulatory authority.

JIM WALLACE: And then the -- here's the list of all the places that are required to do mandatory testing and the protocols incorporated by rule.

And when the law first came into play in 1988, it was required of all of these facilities statewide. However, this changed in 19 --

CLARK ELDRIDGE: 2000.

JIM WALLACE: In 2000, it changed in 2000 whereas they changed what facilities and what counties needed to test, and we'll look at that later. But they were kind of -- the way we were looking at buildings is either buildings built as a

single-family home or duplex and still used as a home versus other building types.

And this was -- there was a Radon protection, not study, done by the Department of Community Affairs, that doesn't exist any longer. And this was looking at -- I believe that you said earlier, it was looking at proposals for areas of the state that may need Radon resistant new construction in building codes. And our understanding is that the Legislature used this map to decide on where mandatory testing was going to be done, which was not the intent of that map.

CLARK ELDRIDGE: The map was the -- I cannot remember the exact percentage of homes or the threshold of homes, but it was that a certain percentage of homes, if they built in this county to -- per standard building practices, that the average indoor level when the home was new, would be between, be below four, between 4 and 8.3 picocuries per liter and above 8.3 picocuries per liter.

The reason for that threshold is again, in the research studies that were done, it was -- there was passive Radon resistant construction; there was active Radon construction. Passive just means sealing the foundation to keep -- prevent Radon

entry. Active means you actually have to have fans that reduce the pressure of the ground underneath the building to kill the pressure differential between the building above and the ground below buildings tend to be negative pressure the way they're operated, so they tend to suck on the ground a little bit. That that pressure, active pressure break had to be put in to keep the Radon levels low.

And so it was, what type of construction was needed to reduce it from that 4 to 8.3, whatever the percentage was, down to the acceptable percentage of homes. And if it was above 8.3 -- and again, I can't remember the threshold to reduce it to the lower threshold, you needed active mitigation systems to get that -- to drop it, if it was like 25 percent to one percent -- it's been too long. I can't remember.

And so that was it. Now, this again, was only for new homes, so it's a house built within a year of manufacture or about within a year or whatever, and it does not affect -- does not reflect anything about aging of homes, shifting of foundations, aging of the caulking and stuff on the outside and how all that goes into pressure differentials, airflows and the amount of a building to suck Radon from the

ground. And it also doesn't reflect anything about building materials in buildings because the DCA initially put that off from evaluating that and how to deal with that in buildings. They eventually just dropped it, the Department of Community Affairs, which was the agency that existed at the time that was charged with developing Florida building codes.

JIM WALLACE: Now, as far as the facilities that have to do testing, it's not confusing if you say all, you need to do testing, right? That's very simple. But when we had to go to this, this confuses the heck out of them. I've got to test and what county, what does it mean? What does the dark green mean? This type of facility do I need to test?

So for example, in Miami/Dade County, only facilities -- only the largest facilities are required to do the testing. Okay? If you're in Hillsborough, in all facilities, whether you're small or large. Orange, none. No, none whatsoever.

So this is always a source of confusion for everyone. We've tried to simplify it, but it's still difficult to kind of parse this out and help them understand whether they need to do testing or

not. And we've developed a couple of FAQs on our website to get people to understand whether they need to test or not; what protocols to follow.

Again, Clark kind of alluded to this earlier. Radon entry, how does it get into the -- how does it get into the building? It comes from the soil or even ground water. We've found that ground water is not a big source in Florida. If you go north into Georgia, though, and some of the northern states along the east coast, it actually is quite a -- is quite significant. But you need what? 10,000 picocuries in the water to equal one picocurie in the air in the home, once it's aerosolized out of the water; is that right?

CLARK ELDRIDGE: Yeah.

JIM WALLACE: So you can get it in sump pumps if you have a basement. Also in the foundation, windows, cracks and crevices in the soil. This is highly variable from one location to another. And then it's a big factor.

But basically, homes suck on the ground and they do so either through natural forces, like hot air rising, cooler air replacing it, so there's this kind of a natural low suction. Or it might be enhanced by an exhaust, like a clothes dryer. A

water heater. Something that exhausts air out of the house, then it's sucking on something and sometimes from the ground.

So Radon entering entry behavior does reflect source strength of the soil and bedrock underneath that building. What's the water quality? And what's the soil porosity? I think in Florida, soil porosity is quite tight. Isn't that correct, Clark, if I remember.

CLARK ELDRIDGE: For most of the soils --

JIM WALLACE: Most of the soils.

CLARK ELDRIDGE: -- they're considered tight.

JIM WALLACE: So that means it's kind of hard to suck on -- underneath the foundation, which we have a model back there of a sub slab depressurization system, what it looks like. That's for more new home construction. There's guides on how to do that. But this does affect when you're trying to fix a home. Air pressure differentials between the house and the ground. Materials that contain Radon which, you know, could be concrete. Could be granite. Could be various sources in the building.

And the ventilation rate. How much air is being exchanged with the outdoors? Most houses

don't have dedicated outdoor air ventilation, although they are incorporating that in newer buildings due to the energy code adoptions.

Weather also does have an effect on how much Radon comes into a house. Rain can actually cap the soil and force Radon in and can also depress Radon into a house and make it a more pathway of least resistance. So you'd have rainstorms which increase the amount of Radon inside homes.

And of course, we talked about air pressure differentials from high pressure to low pressure. Temperature differentials. Wind pressure and barometric pressure do kind of affect things over time. And you end up having, basically, a variation that occurs on a hourly basis, on a daily basis, season by season and through weather patterns that change. So there's a lot of variability that occurs.

So when we're doing testing, or when testing is done, there's either a short-term test kit or a long-term test kit. The short term is basically there to screen for potential health risks. It's not the end all answer, but if you want the true actual health risk, then you go with the long-term testing. But this does take 90 days to a year to

get the results to run the test.

The minimum timeframes for our short-term test is 48 hours. So there's different protocols depending on your purpose. If you want to screen, you want to do diagnostics, you want to do pre or post mitigation, you want to evaluate health risks.

Now, of those test options that are available, there's self-testing. We have some test kits that you can do it yourself that you can buy over the internet or at hardware stores. I'm going to share this if you want to pass it around.

And so, what's interesting about this is we're offering free Radon test kits. We get a grant from the Environmental Protection Agency and we have a coupon in the back or on our website, you go to it and say, hey, I want a free test kit. And when I actually talked to people up front I say, no additional cost to you because you've already paid for it through taxpayer dollars. They like that. They appreciate that, that honesty. But we say free, but it's not really free. Nothing's free.

We have certified businesses that do charge money for their services. And usually that's a time factor. They want levels done or they want a whole bunch of samples done and they need the results

pretty quick. Generally, that does cost more. We do ask people to shop around.

We have a list of certified professionals on our website and businesses, of course. And then there's the passive Radon test kits that I'm passing around here. These are activated charcoal kits. And we -- also, there are active Radon tests kits. I've got an active, continuous Radon monitor in the back there that I plugged in this morning that started running. It doesn't have a result yet. It needs a certain period of time before it gives us a result in this particular building.

The first four hours on an active test may be disregarded. But with the active continuous Radon test, they have the ability to detect tampering or fraud. You know, people trying to move the machine outdoors or waving a fan over it or opening a window next to it and stuff like that. They built in technologies to help the professionals.

So these are the passive test kits that we offer for free; that you can buy and do it yourself. No power needed. Activated charcoal. Alpha track detectors. You need a lab to analyze the results, usually.

And then the continuous Radon monitors and

working level monitors. No one really uses working level monitors because it's hard and it takes a lot of time. And wouldn't you agree with that, Clark, on the working level? Working level's looking at the Radon decay products.

CLARK ELDRIDGE: Right. Where it measures the energy, total energy of the air deposited or generated by Radon deposits.

JIM WALLACE: Usually you can get -- if time is an issue, this is why you use the continuous Radon monitors. Active Radon monitors.

We do have protocols. Why are you testing? Are you doing it just to know? Is it a real estate transaction, which may be a time factor or are you doing it for mandatory testing purposes?

So if you just want to do it, non-mandatory, then we suggest people follow the EPA Citizens Guide to Radon which we have a copy in the back there which you can look at. And it basically suggests a single test device in a common use room and retest to confirm levels.

Now, for all other kind of buildings, there's no official protocols. However, AARST, the American Association of Radon Scientists and Technologists, have developed some protocols for testing and

measurements in other buildings and those are free on their website to view and read. You don't have to pay to actually read them.

Schools are a little different, you know, as opposed to homes. They have fresh air intakes. They bring in outside air. They're frequently only occupied part of the 24-hour period, which kind of is challenging if they shut down the air conditioning system. Radon levels, we do know that they vary from one room to the next as they would in a hospital, for example. And the only way to make sure there are risks, or if you want to screen for potential risks, is to test all the rooms.

Now, for our testing protocols, we do require closed building conditions, and this sometimes confuses people. We're not saying never open a door. You know, it's sealed with tape. No. Interior and exit, just like you normally would. Just don't open the windows. Just don't prop the doors open, you know. That's what we mean by closed door conditions. And we want this done 12 hours prior to the starting of the measurements because you need some time for this dynamic equilibrium to occur. And that's why we call it, you need the 12 hours.

Lowest inhabited space. Away from windows, doors, vents, fans and high humidity areas. Like, you don't want to do it in a bathroom. You don't want to do it in a janitor's closet. There's -- no one's occupying those spaces for any period of time. You want it undisturbed. You don't want people messing with the test kits during the timeframe.

It's always a minimum of 48 hours testing. We do recommend 24-hour increments at 48, 72 and 92 hours. Partial days is not statistically significant, so you can kind of turn it off any time you want to or stop the test. But we do want, or suggest that they take that 24-hour increments to make it easier for the results in the calculations.

We want to get the Radon test kits four inches away from other objects; at least 12 inches away from any wall; 20 inches from the floor; 3 feet from exterior doors, windows, potential openings and if you're suspending a test kit from the ceiling, you want it in the breathing zone.

And this is the protocol, it's what we call 150-334. And it's used to satisfy the legal requirements of the statutes and, you know, provide this testing to us. There are certain exclusions. Like, for example, the schools. Some portable

buildings at schools are not required to do testing if they meet certain criteria. And that's spelled out in the protocols. Because they may be off the ground and have all kinds of ventilation between the ground and the building, itself. So, you know, it may not be a factor, but some close in that crawlspace, that means they will have to go in and test.

We do have administrative penalties or fines, which are kind of in, generically, in 404. I'm not sure that we've actually used those very often, have we, Clark?

CLARK ELDRIDGE: No.

JIM WALLACE: Okay. Okay. So the challenge for a Radon mitigation system is to lower the Radon level in a building, but it's usually not the hardest thing to do. That's the easy part. The hard part is doing it without compromising the esthetics of the building, without compromising building integrity or doing it at a reasonable cost. And that's the challenge.

But Radon mitigation systems have been used effectively. I mean, that report right there is from 1978, I believe, or '83 -- yes. So we've been doing this for a long time. They fixed Stanley

Watras' house at 40, you know, 4,000 picocuries per liter down to below four rather effectively. Even though that cost $32,000, you can probably get a mitigation system built in your house, anywhere from 1500 to $5000, depending on the complexity of the home and whether you're, you know, 23 floors up, or whether -- what type of system you need to fix the problem.

Go ahead.

WILLIAM ATHERTON: What do these systems consist of? You say mitigation systems. I'm not picturing anything. Like fans or what?

JIM WALLACE: Yeah. And I think we had some slides on that earlier.

WILLIAM ATHERTON: Okay.

JIM WALLACE: Yes, we do. Here we go. So the most common mitigation system is called an active soil depressurization or sub slab depressurization system. In our model there, we show what one looks like. That was built by a professor at FAMU for us. It kind of shows how you construct it. And we have some nice brochures there. The EPA has a nice building system. We do have a mitigation standard in the Florida building code as an appendix. It's been there from the mid '90s, I believe.

Also, in some buildings, you may need to improve ventilation. Bring in outside air. Like the -- that's -- I think that was kind of the solution for the highrise condos.

Sealing cracks and crevices, trying to reduce the amount of Radon entering through -- or maybe you have this whole, this whole plumbing conduit where it's like a Radon superhighway. If you can seal that, you might be able to reduce the amount down to a reasonable level.

Sometimes for big buildings, commercial buildings like schools, for example, you may -- if you adjust the air handler settings, you might be able to lower it below the level of action.

They must meet building codes. Check with local municipalities. There is no statewide requirement for Radon resistant construction. Although some counties have adopted, the Legislature kind of basically said that local governments could adopt standards, but there was a very specific procedure that they had to follow.

CLARK ELDRIDGE: Basically, the majority -- the municipalities were -- representing the majority of the population and the county government, have to enter into an inter-agency agreement to adopt the

codes and it goes in effect countywide. How many people here understand how well cities and counties work together? Um, and --

JIM WALLACE: It's a challenge.

CLARK ELDRIDGE: Yeah. So basically, the only counties that have adopted these are ones where the county government is the only government in the county. Jacksonville. You know, Duval County. Two north of here is Hendrick. I think Hernando has adopted codes or were looking to.

JIM WALLACE: And this is kind of -- photographs of a mitigation system going into a building where they start by drilling a hole into the foundation. They go into that hole. They use a scoop and they dig out all the rock -- the soil underneath. They put in a bucket. They fill it back in with, let's say, rock or gravel of a certain size. They then fit in a PVC pipe. They seal that pipe to the foundation.

They then take this pipe and pipe it to the outdoors. They will need, in an active soil depressurization, to add a fan to it, in line in that pipe system. And also right here is a pressure gauge, indicating that that line is under a negative pressure.

So you can look at the, at the red water, basically, in it. If you see it being lopsided, that means you've got negative pressure. If you see it even, there's no negative pressure and your system is not working.

And there's another example of that, that gauge saying, hey, you need to take -- there's also a requirement for a labeling. I think there was Radon resistant new construction where they, they made a pipe for the vents for the Radon resistant new construction and they didn't label it and someone, a plumber came afterwards and started -- hooked it up to a toilet or something. Something like that.

CLARK ELDRIDGE: Well, they've also used it -- they also cut out the system and used it to exhaust their dryer.

JIM WALLACE: So it needs to be labeled it's a Radon mitigation system. And they need a fan to install outside of the occupied space, out of the air conditioned space. So usually it can be in the attic, right? It's not air conditioned. Not a part of the breathable space. Or they can plumb it to the outside of the building. They have a fan going out, but it needs to be a visible or audio warning system. And they need to terminate this vent fan

above the roof line. So if they're going outside on the side of the house, like this, then they need to go up past. So they don't want Radon re-entrainment in nearby windows or doors.

And this system also works for, you know, crawlspaces. It's kind of the same system you put under -- you're putting a negative pressure system underneath the sealed membrane here. You see all the ground and all the contacts with the ground and you suck on that below that membrane. And you basically do the same thing. You pump it to the outside.

Ventilation is another technique. This often is used in the more difficult to resolve things, like highrise condos or multifamily condos. A lot of condos that are two stories have problems with getting permission to put in a sub slab depressurization system because of concerns from the homeowner's association. And we've run into that quite a bit. A lot of concerned and angry people apparently, fighting each other over the ability to put in a mitigation system. So they may end up having to do this instead and -- and with mixed results. Let's just put it that way. Mixed results.

If this is done right, it can work, but it may be a more expensive system than a sub slab, generally speaking.

One of the reasons for that is you bring in a lot of outside air and you don't control that outside air in terms of humidity content; moisture. You may end up causing a damp room and increasing mold problems, so it's something that you have to be fairly careful with. And for the highrise condos, we recommend an engineered system that, you know, they've actually accounted for that humidity and control it.

Any comments on that, Clark? But also, with any case, we do want to try to reduce the entry points of Radon by sealing, caulking and reducing the routes through plumbing conduits, electrical outlets; things of that nature.

CLARK ELDRIDGE: And it's not very effective. There aren't very many available places to do that in Florida construction because we've got finish, you know, slab on grade and you can't get to the entries.

JIM WALLACE: And here's what we've been talking about earlier. There's a lot of politics in the condos regarding mitigation systems and that's

why they're using the ventilation techniques the most. Soils are tight, so the suction deals don't go -- extend very far. And water doesn't seem, as I mentioned earlier, water doesn't seem to be a big issue in Florida in terms of the amount of picocuries in water. But if you go north to Georgia, you'll find some problems.

Post mitigation assessment, we do recommend testing to make sure that the system that you installed works. I believe this is a requirement. So if a mitigation system is installed and it fails, it does not get you below what you're targeting to look for or maybe targeting to, you'll probably need to perform a building investigation to find out what you did wrong or what you need to address with that building. Is there something you missed that you need to seal? Is there -- do you need another suction point, for example. And you know, fix that particular problem, retest and make sure you're doing it.

We do recommend that people retest their homes after five years and doublecheck to make sure their systems are still working. Even if the system is working and they know it's working, still go ahead and retest because things do change over time.

Buildings settle; things don't always remain the same.

So final review, Radon is a Class A carcinogen. It's known to cause cancer in humans. The only way we know to know its presence is to test for it. We know we can reduce the levels effectively. And Radon testing is required in some facilities in Florida whether they are be old or new.

And this is our statewide telephone number. We've had this since the 80s. Toll free. Regular number. Joseph and I were the -- put together this presentation and we've been giving this out quite a bit. If you have any questions, here's our website.

And speaking of our website, we have a -- probably the most extensive Radon website in the United States as far as state Radon programs go. How do I know this? Because I went and surveyed them all and saw other states have one page. And we've got, like, 47 or something like that. We've got Radon in real estate videos that we've put on YouTube. Those are really neat because you look at the style of the 90s, and you kind of tell that it's dated, but it's all right.

We've got training and I guess my time is up. Any questions?

JAMES FUTCH: Those were actually questions and yes, your time is up. That's not the question. Tim, if there are members or societies that members know of that would like to hear this, do you travel? Do you do talks at, like, I don't know, Florida Radiological Society or what -- not the Health Physics Society. We've already been there.

ADAM WEAVER: Well, it was a joint meeting with the industrial hygienists.

JAMES FUTCH: That's true. Yeah.

ADAM WEAVER: He got a good bang for his buck.

JIM WALLACE: With our EPA grant, the state indoor Radon grant, part of it is outreach. And that is also in our statute, 404.056, that we provide education outreach. So anyone who wants to hear from us, we're pretty much available as long as we've got a budget for it, right, Clark?

CLARK ELDRIDGE: Yep.

JIM WALLACE: Historically speaking.

CLARK ELDRIDGE: Historically speaking.

JAMES FUTCH: This is the kind of issue which we can speak from the scientific perspective about what is known, but it butts up against other concerns that have to do with pocketbooks and places we don't typically go.

However, I think the more people who are able to understand and appreciate this, especially folks who advise citizens on lots of different things in their lives, and into -- and who citizens look to for guidance about things like cancer, would be a good population to make sure they have all the facts.

JIM WALLACE: And we do have a lot of outreach materials. I'll share -- I'll send this around. This is a Radon poster contest. The 2022 winners are in that. The winner for January went to the state, the nationals, and actually won. And we've had quite a few poster contest winners here in Florida went to the nationals and won. These are 8th graders, generally speaking. And it's a kind of a winner -- a lot of kids put in great entries. So you can see some examples from the last year.

We've got brochures on generic Radon, which is the -- you can see reflected in these big flyers here. We've also got, hey, you want to become certified and do Radon measurement for a business or mitigation? Hey, do you want a free test kit? Go on our website. Here's a coupon. Hey, you got homes, you're a home buyer and home seller, what do you do about Radon? Hey, you've got high Radon, how

do you reduce it, you know. Nice little pamphlet on that. Hey, you're building a house or, hey, you're a contractor, do you want to build without Radon? We have a diagram of what a Radon mitigation system looks like back there at that model if you'd like to take a look at it.

Hey, you're a health professional. Would you educate your patients about Radon, because it causes lung cancer. Hey, you can sell a house, real estate professionals. We go reach out to them; say, by the way, you know, notification is required if you've got questions about Radon.

And that's something I should mention here, is while the law doesn't require that you provide testing results to a buyer, there's case law out there that has been established that any latent defect that affects material value of a property, must be disclosed to the potential buyer whether it's as is or not.

So there's been two case law decisions in Florida that have established that requirement. It's not something the health department requires. It's something that people go to court and sue each other over. But if someone has a question about that, we'll let them know that there is case law

that they could review and talk to their attorneys if they need to establish if someone knew about it and didn't tell them; and therefore, they need to fix their home and it's going to cost them $2000 and they're going to go to court for that cost.

So -- but anyway. Oh, and that's about it. I think it's -- but we've got, also, some old reports back there if you'd like to look at Radon through the years. From the 70s up until most recently.

I'm going to do a timeline on Radon at some point. Maybe a presentation or a website or something.

JAMES FUTCH: I think you should write a play. Go on Broadway.

JIM WALLACE: Broadway?

MARK SEDDON: A two-man show, you and Clark.

ADAM WEAVER: You and Clark.

GEORGE GILBRIDE: A musical.

(Laughter)

JIM WALLACE: Do you want to do it, Clark, when we retire maybe?

WILLIAM ATHERTON: It has to have a tap number.

CLARK ELDRIDGE: I've tapped around here long enough. I should have plenty of experience.

JIM WALLACE: Any question, comments, feedback?

Is there something here you don't like or thought that's wrong or anything like that?

GEORGE GILBRIDE: I do have one question.

JIM WALLACE: Okay.

GEORGE GILBRIDE: And so, maybe I didn't understand this. But a building comes out, okay? You have high levels. So --

JIM WALLACE: New?

GEORGE GILBRIDE: Well, let's say old building.

JIM WALLACE: Okay.

GEORGE GILBRIDE: Once they inform, you know, you guys that it's -- they've got a problem with it, are they obliged to do anything with it or can they leave? That's the question.

JIM WALLACE: No. They're not required to -- the mandatory testing requirements for buildings, none of those entities are required to fix the Radon problem. They are required to report it to us. We have a form, and we put that on our website. It's searchable. It's a public record. And that's only for the mandatory Radon testing sites. And also, the data is also available for the certified professionals who provide the data to us.

GEORGE GILBRIDE: So even if the levels are like, like that guy's house, they're still not

required to have anything.

JIM WALLACE: Right. The highest level recorded in Florida are 307, according to our nice little flier over there. That was in Tallahassee.

CLARK ELDRIDGE: It was in Tallahassee.

JIM WALLACE: However, Gainsville is trying to outdo us.

JIM WALLACE: Alachua County, I know Alachua County had high levels of Radon.

CLARK ELDRIDGE: Before that 307, most of -- they were -- Alachua and Marion were battling it out around 280 and 290, one up over the other for the highest Radon level.

JIM WALLACE: And recently, someone hired our certified professional to test a, I think it was a boom shelter. An old bomb shelter. And it was in the 500s, which is -- kind of blows this out. We're not going to count it because no one is occupying that bomb shelter.

GEORGE GILBRIDE: Not yet.

JIM WALLACE: Not yet.

JAMES FUTCH: Yeah.

JIM WALLACE: So, but very high levels in a bomb shelter. Unoccupied bomb shelter. Who knows what the Radon decay products and the working levels

are in that room.

CLARK ELDRIDGE: That would be horrible.

MARK SEDDON: Has there ever been established any liability claims in case law regarding Radon for, like, for employers who are aware of elevated levels, and they have working conditions that have not been mitigated?

JIM WALLACE: I'm going to have to say I don't know.

ADAM WEAVER: That's a gray area.

CLARK ELDRIDGE: I haven't heard.

MARK SEDDON: Okay.

JIM WALLACE: I don't know. I know FSU was very concerned about it. About their concerns.

MARK SEDDON: Right.

JIM WALLACE: About the experience expressed by their faculty and staff and they decided to go ahead and do a lot of testing for Radon and they decided to test every building on the campus for Radon. And we were like, you know, we were happy that they're doing it, but they're not required to.

MARK SEDDON: Has it been brought to court before? Is there a precedent or has there just never been a direct correlation set?

JIM WALLACE: I don't -- I haven't heard

anything about that or read anything about that.

CLARK ELDRIDGE: I don't know that certain law firms would necessarily take up this, since you're talking about the, you know, how long does cancer take to show up. There's one of those that, you know --

JAMES FUTCH: How do you distinguish the cancer from Radon that you've got inside the house?

ADAM WEAVER: Versus smokers. There's been miner cases. I mean, people that work in mines.

CLARK ELDRIDGE: Yes. We've see that kind of thing.

ADAM WEAVER: High concentrations.

CLARK ELDRIDGE: In the mine cases, actually, we're got all the data for that because they've been required to monitor for Radon in mines. So they have all the data showing when this person worked in the mine, what the levels were that day; that type of stuff. That's been --

MARK SEDDON: Right.

CLARK ELDRIDGE: -- a mine safety --

ADAM WEAVER: It's difficult to interpret because a lot of that is working levels and the difference between Radon and Fluorine.

CLARK ELDRIDGE: They actually do that for the

McMarion Caverns and rotate out the -- state, state, why can't I say the word? It has -- the leader of the caves. I can't think of it.

REBECCA McFADDEN: Splunking?

NICHOLAS PLAXTON: Splunkers?

CLARK ELDRIDGE: No. Park rangers. They actually have to rotate out during the year because they meet the regulatory limits.

JIM WALLACE: So some of your medical --

ADAM WEAVER: Are they monitored by TrackX?

CLARK ELDRIDGE: They're doing grab samples and they're doing continuous monitoring, working on monitoring in the caves. At least that's what they were doing last I knew about it and it's been a while since I've talked to them.

ADAM WEAVER: They may have changed.

JIM WALLACE: And some of you are medical professionals, correct? There is an ATSDR, the Agency for Toxic Substances Disease Registry has case studies in environmental medicine. Some of them are available for CEUs or CEs. Unavailable anymore, I guess, because they are older and need to be updated. There's one on Radon. And this has an interesting -- I think it's in the -- so they have a -- I can't ever remember this for some reason, but

there's an appendix. There's a -- there's a lot of good information in the appendix here.

CLARK ELDRIDGE: There's actually one -- is it Cocoa or is it Brevard? Might be Cocoa. Actually has a -- doesn't know they've done this that I'm aware of, but you're actually required to reduce elevated Radon levels if you have a home in Cocoa because their local potability code for the housing has adopted all of 64E-5. And so that includes the Radon. As I say, I don't know that anybody knows they did that in their building codes for that.

ADAM WEAVER: So what's a typical cost of getting just a passive test in a house today?

CLARK ELDRIDGE: You said for a test?

ADAM WEAVER: Yeah. Like a typical, just a charcoal.

CLARK ELDRIDGE: Is it still 25 bucks? I haven't looked in a while.

JIM WALLACE: It's free here.

ADAM WEAVER: I know it's free. You get one free sample. But if you wanted to do a bigger house. Say you had a basement.

CLARK ELDRIDGE: Right. At one point, you could get them for 12 bucks in bulk, including analysis. Again, I have no --

ADAM WEAVER: Do they sell them on Amazon now?

CLARK ELDRIDGE: It's been too long. I'd go directly to the lab.

JIM WALLACE: And this is going back to your point, Mark, about occupational versus residential. You know, the residential in schools is 4 picocuries per liter.

MARK SEDDON: Right.

JIM WALLACE: But the OSHA permissible exposure limit, the legal limit for workplaces is way higher than that. And we're not even close to that at FSU. But you know, and FSU doesn't -- they're not required to follow OSHA standards, either. But this, this is something that folks will look at in terms of their liability. But you know, we're kind of going towards this one --

MARK SEDDON: Right.

JIM WALLACE: -- for schools and 24-hour care facilities, homes. But for workplaces it's a little bit different. I think, Clark, you and someone else, was it Flip, worked on Marianna Caverns?

CLARK ELDRIDGE: Right. Marianna Caverns.

JIM WALLACE: We helped them out with trying to limit exposure to their park rangers, I think.

CLARK ELDRIDGE: Park rangers.

JIM WALLACE: And gave them some help with the -- you know, looking at working levels and trying to make sure that people were aware of their exposure.

Did you give them the -- did you suggest dosimeters?

CLARK ELDRIDGE: As I said they, last I knew, they were doing periodic -- they were doing air sampling two to three times a day in the caverns.

JIM WALLACE: Really? Interesting.

RANDY SCHENKMAN: Okay. I think we're going to need to move on. That was a fabulous --

MARK SEDDON: Very good.

RANDY SCHENKMAN: -- presentation. Thank you.

JIM WALLACE: You're welcome. Thanks for having me.

CLARK ELDRIDGE: Okay.

JAMES FUTCH: And next we have Kevin's radioactive materials update.

KEVIN KUNDER: Okay. For the new in the room here, Florida has broken off from the NRC and become an agreement state since '64. So we take care of all the radioactive materials licenses in the State of Florida, with the exception of the federal facilities and the power plants.

So we have, at this time, we have about 1800 licenses throughout the state. And we're the second largest program overall. California beats us. But we have about 50 percent more medical licenses in the State of Florida than California does.

Getting into from last time, probably last couple times, we've been talking about rule making updates. So we were -- we had to get our stuff submitted to the Florida Administrative Register. We did that last year on April 1st, and which meant that we had to have it adopted by April or March 31st this year and didn't make it. So we had to, once again, have it published in Florida Administrative Register, which it was, I think the -- it was the second week in -- April 13th of this year. It's in legal right now. So legal is going through it. It's going bouncing back and forth.

But from there, it goes to the Office of Fiscal Accountability and Regulatory Reform. Joint Administrative Procedures Committee. And then from there, if everything goes well, then it will probably be adopted. So trying to get this thing fast tracked as best we can, because we have our NRC and we have a mid cycle coming up the 22nd of June

this year. And then we'll have our big every four year one will be next summer.

MARK SEDDON: So are we currently noncompliant with that NRC requirement?

KEVIN KUNDER: Correct.

CINDY BECKER: Technically.

JAMES FUTCH: Kevin, what's the IMPEP or acronym for that?

KEVIN KUNDER: You would ask me that. Integrated materials --

JAMES FUTCH: We get inspected by the NRC.

CINDY BECKER: Integrated Materials Evaluation Program.

KEVIN KUNDER: You forget we've got a P in there. Yes. That one.

JAMES FUTCH: The Government can't remember the government's -- --

KEVIN KUNDER: Integrated Materials Performance Evaluation Program.

JAMES FUTCH: So we get inspected by the NRC.

KEVIN KUNDER: Yes.

CINDY BECKER: We get IMPEPed.

JAMES FUTCH: By other states actually, too.

KEVIN KUNDER: Yes. NRC personnel as well has interstate personnel who have gone through the

training and they'll come in as well. So they share.

MARK SEDDON: Do we anticipate any problems this time around?

KEVIN KUNDER: I'm sorry?

MARK SEDDON: Do we anticipate any problems this time around?

KEVIN KUNDER: I hope not. I think we're much better off than we were in '19.

CINDY BECKER: We are. And thanks a lot for Kevin and John's group for that and the inspectors, too. but Kevin was lucky enough to start what, two months before the big IMPEP?

KEVIN KUNDER: Yeah. I think they were already here before I got here with the -- going around with the inspectors to watch what they were doing. And, yeah.

MARK SEDDON: Okay.

KEVIN KUNDER: What else? Medical events for our -- we just had two since last year, or since the last meeting, since December 2nd.

The first one was a mobile HDR that goes around in the south Florida area. And they go around to different facilities and they treat patients from nursing homes. They'll bring a wheelchair in, grab

them out, bring them out to the little coach, little van and they'll do treatment out there with an HDR unit.

And in this particular one, they went in to do a patient. They saw the patient for recurrent squamous cell skin cancer of the hand. And they saw the patient. And the treating authorized user saw the patient in October and scheduled the first fraction of 20 fractions, two a week for, I think it was, um, like, just before, before Christmas, whatever they came in. They did -- the doctor looked at the patient. It was supposed to be for the right hand, but the authorized user looked at his left hand and said, yeah, we've got to get that taken care of. Sends the patient in the coach and the radiation therapist, same thing. Looked at that hand and said, yeah, we've got to get this thing taken care of.

And their procedures at the time were for them to put the lead, the therapist puts the lead on, puts the applicator on top of that and then puts another lead backing on top of that. Tapes up their hand and gets them all ready to go and then straps them down and nobody does any other thing in the room at that point.

And then they go outside the room and their time out was, was not what I would consider a time out. And they said, yeah, we're doing the right hand and that's all fine. And even the therapist heard him say the right hand, even though he taped up the left hand.

So they did the first fraction on the wrong hand. The patient came back two weeks later and they said, yeah. The doctor then looked at the right hand and said, oh, yeah. We're going to get that taken care of this time. And the patient says, no, no. It was this hand over here. So they went out and they did take pictures before and they looked at the pictures. Sure enough, they had done the opposite side, or the wrong side. So that's when they caught it.

Unfortunately, they didn't notify us until a week after that. So it took us some going back and forth. We found several violations -- four different violations that we found. And it was just trying to get them -- with their procedures a little bit tighter than what they had.

So that was the first one. They were ultimately fined $1900 for the violations that we found.

And the second one was a more recent one. It was Lutathera therapy. And it was, I guess the patient came into the room. It was a leak. It was a leak on that one there. But the patient came in the room. It's the therapy that, for what, the GI pancreas, whatever, areas. They come in for a four-hour infusion, I guess. And at least for the amino acid and stuff, they come in for a 30-minute infusion of the Lutathera. And the patient came in the room already hooked up with the IV. And the technologist put the little cap on there and screwed it on there and they started the infusion. And almost immediately, the patient, I feel wet down here, whatever. So they stopped it. And the patient ends up getting about 36 millicuries out of the 200 millicurie dose. So he had a partial dose in there. But they were able to clean it up following their procedures.

They've done these things, you know, they said, probably over a thousand times already and never had any issues with it. But they had these absorbent materials there, collected it all, washed it all down and stuff they were able to account for the full dose and what they had and what was in the patient.

So that was the -- that was it for my medical events.

And staffing changes, the only thing that I have this time is I'm losing or I just lost an administrative assistant, Diana. If anybody has called, they'll get Diane on the phone. And Diane has now moved over to inspections. So she's on the inspections side in the Tallahassee office. So Jorge took her from me instead of James this time.

JAMES FUTCH: It was Jorge. Kevin is a great recruiter. Has a large staff. Clark, myself, Jorge, the inspections administrator, appreciate it very much. It's very helpful. Shortens the timeframe. We don't have to do as much work. Sorry. That's what Kevin thinks.

KEVIN KUNDER: That's all I have. Anybody have any questions?

RANDY SCHENKMAN: Okay. Well, we're running a little bit late here, so Clark, is your presentation long? Should we do it after lunch?

CLARK ELDRIDGE: Yeah, we'll probably do it after lunch.

RANDY SCHENKMAN: Okay.

JAMES FUTCH: We can even combine with your medical events and we'll still be on schedule at

1:30. Clark has got another piece this afternoon.

CLARK ELDRIDGE: Yeah, combine with mine.

RANDY SCHENKMAN: Oh, okay. All right. Well, then --

MARK SEDDON: I have a quick question for Kevin.

KEVIN KUNDER: Yes, sir.

MARK SEDDON: One second. So Lutathera has currently suspended doses from New Jersey? Have you heard that?

KEVIN KUNDER: Oh, really? No.

ADAM WEAVER: There's a production issue over it -- the reactor and accelerator, who's ever making it. That's all I heard. It's nationwide.

MARK SEDDON: Yeah, nationwide. They just added this the, like this past two weeks maybe.

ADAM WEAVER: They haven't been able to deliver doses for all this week.

MARK SEDDON: Yeah.

ADAM WEAVER: It's taking longer. It's expensive stuff.

JAMES FUTCH: So we have -- with the Chair's permission.

RANDY SCHENKMAN: Of course.

JAMES FUTCH: Can we talk about lunch? We have

the Hilton Garden Inn where we've gone many times. Brenda's just checked and we're able to go over there as a group. Although we may be sitting separately, you know. Who knows how it plays out over there. And of course, there's the World of Beer if anybody wants to go that way. And we usually come back at 1:30.

RANDY SCHENKMAN: 1:30.

ADAM WEAVER: Be back at 1:30?

RANDY SCHENKMAN: Yep. That's good for everybody?

BRENDA ANDREWS: Can I get a head count of who's going to go to the Hilton Garden Inn? It's about all of us. That's good.

JAMES FUTCH: Who's definitely going to stay here? Anybody?

NICHOLAS PLAXTON: Stay where?

JAMES FUTCH: In the room.

ADAM WEAVER: Are you catering?

JAMES FUTCH: No. You workaholics. There's always somebody who wants to stay here and work on whatever it is.

(Proceedings recessed at 11:57 a.m.)

(Proceedings resumed at 1:27 p.m.)

RANDY SCHENKMAN: Okay. Since everybody is

here, we're going to call the meeting back to order. And we have our guest lecturer here, Will Gibbons. So whenever you're ready.

WILL GIBBONS: Thank you. Hello everyone. I am Will Gibbons. I'm the new RSO at Moffit down in -- well, right like here in Tampa. I will be giving a, like, high-level overview of the types of uses of radiation at Moffit. I'll begin with a quick blurb, a little about me, followed by a quick history of Moffit before I dive into what or how we apply radiation. And then I'll finish up with some of the proposals or ideas for the future of Moffit.

So a little bit about me. I have a background in nuclear engineering. I'm an RRPT. I've passed AAHP part one. I'll be taking part two within a month now. I am a certified laser safety officer and I have been truly privileged to have had quite the diverse career range so far. And I've done a Marssin work out at Berkeley Labs. I worked with a, kind of like consulting firm for the refueling of naval reactors. I worked for one of your own, Adam, and before I moved back down here to Tampa, I spent a few years up in Chicago.

So Moffit Cancer Center opened our doors not too long ago in 1986. And ever since, we have

grown; expanded. It's truly a remarkable place filled with some of the most brilliant people I have met. As, like, you can see, the timelines are very short in between some pretty big milestones.

We are a -- we have been recognized by various accreditations. We have been ranked as, like, high as, like, number six by the U.S. News and World Report for the best hospitals for cancer treatment. We are ACR accredited and there's just many accomplishments Moffit is proud to have achieved.

So I'll briefly touch on how Moffit does have non-human research. That will not be what I focus on. I'll be talking mainly about the clinical side. But there are brilliant scientists; two large research buildings, many isotope users, x-rays and quite the resources.

I know this half is, like, covered by the USF radiation safety team.

So now for the side I am over, the clinical side. Moffit has many facilities I know mainly here in Tampa. There is a center at an Advent Health site in Wesley Chapel. Moffit also has established various partnerships such as the Morton plant, also others such as sites in Pembrook Pines and Celebration.

We currently have four radioactive materials licenses listed here. We had our blood irradiator replaced with an x-ray device, so that cut down on a license.

Also, we have a decent expanse of radiation generating machines. At the main campus, which is an inpatient and outpatient site, we have seven LINACS. We have a whole slew of diagnostics and one electronic brachy system. The two other larger outpatient clinics also have a good number of x-ray or, like, radiation machines. And then as I touched on, our Wesley Chapel site has a LINAC up there.

So Magnolia, as I said, it is our main campus. It is up at the University of South Florida campus. It is licensed for 206 inpatient beds. We do a lot of different procedures with radiation, both diagnostic as well as therapeutic. This is a list of some of the modalities available.

So in IR, they do a whole bunch of really neat stuff. There are three NGO rooms; a very talented team of physicians and wonderful technologists and the culture is just fantastic. As an RSO, it's really nice when there's a culture that respects the tools that they employ.

Radiation therapy is, I think, one of the cool

departments. They do a lot of very interesting work. They have, like I said, seven LINACS at Magnolia. One is an MR-guided LINAC and that gives some really great resolution. There's a different techniques, capabilities and --

At McKinley, this site, it is a mile down the road from the Magnolia campus, so very convenient for the RSO who has to travel between sites. There it is a purely outpatient clinic. They have DEXA, 3D mammography and both nuclear medicine and PET.

Moffit International Plaza, which is right down the, like, road here, if you came in off of Boyscout Road from Dale Mabry, you went right past it.

This is another outpatient site. There are two LINACS. One was recently installed, replacing another. They have, again, a, like, wonderful slew of modalities and they have PET for the materials side.

Now, the HDR, this is housed at our Magnolia site. We do source exchanges every two months so that we can keep the dwell times, like, low to treat as many patients as we can to give the care to everyone who needs it. Typically treating about 12 to 15 patients a week.

Something really cool they do, they develop in

house flaps for skin and, like, different applicators to best suit each patient. So personalized medicine as a whole is a growing idea and it's really nice seeing that applied here.

So that is a, like, basic overview of what we have. All that takes a large team. We have, again, some of the most brilliant minds I know and they are, like, we have a number of practitioners which are both MD, DOs as well as, like, the mid-level nurse practitioners and such. There are wonderful nurses who care for these patients and really great technologists. I really appreciate again how every team member really has the passion to provide the best care and it's nice as a safety professional to see people who take safety seriously.

So radioactive materials, there's many uses and, like, a new radio pharmaceuticals coming out and we can see the applications growing. The Lutecium-177 usage, whether that is NETs or prostates going up, the Y-90 microsphere cases are just growing. And like, this is just a snapshot of the growth.

Now, sometimes things go up and sometimes things go down. There is also different isotopes not being used as much such as Samarium, which the

maker has discontinued that. So other things such as like TC-99M, we see it coming back up. So I believe the dip we saw was more to do with the pandemic we are in as opposed to reducing the usage of it.

NICHOLAS PLAXTON: I have a question on that. The I-131 I saw kind of dipped down and came back up. Do you think that's the same reasoning or what was the -- I figured thyroid cancer is the main thing being treated. I was kind of surprised to see it go down and come back up.

WILL GIBBONS: Yeah, I don't have the specifics of why, but I mean, I would -- there's many different reasons which could and that could include the pandemic. But like, again, I don't have --

NICHOLAS PLAXTON: Yeah.

WILL GIBBONS: -- the specifics.

MARK SEDDON: At Moffit, they did stop doing that during the pandemic.

NICHOLAS PLAXTON: They did? I mean, that is what it is.

MARK SEDDON: I can't imagine it could be just like a reduction.

NICHOLAS PLAXTON: We didn't stop at the VA. We just kept going.

MARK SEDDON: It's the VA. You guys do things differently.

(Laughter).

WILL GIBBONS: For Xenon, I think almost everyone stopped Xenon-133 during the pandemic.

NICHOLAS PLAXTON: Yeah. True.

WILL GIBBONS: So again --

NICHOLAS PLAXTON: They can do that. We did stop that. And we actually stopped doing the exercises on the stress test. I think most people did that, too.

ADAM WEAVER: And just used chemical induced?

NICHOLAS PLAXTON: We do to this day unless they have a negative Covid. So I don't know if the other people have that experience. We didn't want, you know, people on the treadmill blowing stuff around. So, yeah, since the pandemic started, we've been doing pharmacologic stresses only, unless it's, like I said, they request it and the patient has a negative Covid, like, within 48 hours.

MARK SEDDON: That would be an interesting study to look back. We have cardiologist offices. I never really thought about if they changed their practices, so that's curious.

NICHOLAS PLAXTON: Yeah.

WILL GIBBONS: Yeah. So in, like, in addition to those, like, modalities and, like, isotopes I have touched on, we are applying some pretty cool cutting edge work, too. GARD, I believe some of them you might have heard of. That is a mathematical approach where they look at different predictors to really, again, apply a personalized approach to their radiation oncology treatment. Dr. Torres-Roca has been very instrumental in this work.

Also, over in IR, they are doing prosthetic -- prostatic artery embolization. And they are finding that really does help alleviate lower urinary tract symptoms during their radiation therapy treatments. And I don't think I need to talk about the different -- the very large occurrence of prostate cancer. So I mean, this is really big work by Dr. Parikh. And it's just really impressive, I think.

And again, radiopharmaceutical usage is, like I said, growing. There are many trials coming in. Different proposals, whether using Iodine-131, Actinium-225, that's a big one for us. I know also different Lutecium studies. And on the brachytherapy side, there are proposals such as Radium-224 seeds. So I have a license that I'm in

now so hopefully we get that back. So we can tell them that it's a go.

And I know if, like, anyone has like been up by the Moffit USF area, you might have seen the new hospital being built. The current plan is to start not at full capacity, but it can grow up to around 400 inpatient beds. There will be some pretty cool technology, such as a CT, which can be moved between two IR rooms; a nuclear medicine department with an infusion center.

Also, we have four lead-lined rooms with the shielding designed for up to a curie of Iodine. So that will be good for possible work such as Azedra or Iomap B (ph). Different systems that are currently being looked at. This one will be -- this is being built, again, a mile down the road from the Magnolia main campus.

And a little bit about the radiation safety. I am a dedicated RSO, so I do not have another hat as like any other role, so it really lets me focus and to make sure we have one of the best radiation programs.

I make it a point to visit the different departments routinely. I am a really huge proponent of building up over a rapport. I think the

relationships, like, make a really big difference. I know throughout the sites, we have records kept both on paper and electronically for access for whoever needs it. Again, being at Moffit, the team members are fantastic. The safety cultures I feel impressive and it's also nice when there's support from the top.

There's also future endeavors, including a possible second Truebeam vault up at the Wesley Chapel site. I'm exploring additional MR-LINACS. Looking into PET LINAC where the beam's guided by the location of the PET tracer. So I think that is really cool. And also, looking at a proton therapy center, carbon ion technology as well as expanding our footprint to best serve our patients. And that includes a Pasco County campus. Over 700 acres have been purchased to build a true campus to fully support patients. Both, like, research, clinical presence as well as, like, planned resources for patients. And with this growth, a personal endeavor is to apply for a broad scope license.

Any questions?

NICHOLAS PLAXTON: I'd just like to add the -- so the MR-LINAC, I don't know, are you familiar with that? Because I know when you guys had it, it was a

couple years ago, and that was like one of, like, five in the country at the time. And it's impressive because it's a -- the MR runs continuously during the entire time the treatment's running, so -- and the beam only goes on when the target's in the, in the zone versus like traditionally. Normally, you just get a CT in the very beginning and you just assume the patient is not moving, which is not the case.

WILL GIBBONS: Right.

NICHOLAS PLAXTON: So it takes twice as long to do, but the amount of direct, you know, hitting the target without hitting stuff around it is huge.

MARK SEDDON: Yeah. For us, SBRT is super critical. That's the gold standard if you want to do abdominal SBRT without a lot of traditional markers. That would be the way to go with an MR-LINAC. Actually, I'm really interested in your PET LINAC plans. That would be pretty cool.

WILL GIBBONS: I know we are also right, like, now, looking to expand our surface-guided therapies. I know to install that technology on more of our LINACS. There are two more brands, I think, from now and I know we're just looking at which one's best for us, so --

MARK SEDDON: Interesting. So is the -- having the fusion center in your nuclear medicine department, is that going to be your standard with your new campus, too?

WILL GIBBONS: I cannot talk to the specifics for Pasco because I don't know. However, the plan, the drawings for the new McKinley site are to have three infusion chairs where they have dedicated bathroom, all of them that, right in nuclear med and from a safety side, I think that is a wonderful way to go, so it's all kept locally.

MARK SEDDON: Yeah. I think it's interesting because I know we talked previously about the future of nuclear medicine and, of course, on the diagnostic side you're seeing more infusions and having a need for that change in the way we're approaching nuclear medicine to be more therapy treatment and incorporated and having infusion available locally is probably the safest situation to be in.

WILL GIBBONS: Right.

NICHOLAS PLAXTON: You're doing that for the Lutetium therapies mainly, right?

WILL GIBBONS: Correct.

NICHOLAS PLAXTON: Currently, right?

WILL GIBBONS: Correct.

MARK SEDDON: You have to have infusions for like the new Pluvicto and some of the other stuff coming down the pike, all those include fusions as well. That's going to be kind of the new wave.

NICHOLAS PLAXTON: Yeah.

WILL GIBBONS: Yeah. I mean like, again, having -- being able to, like, minimize the traveling of either the dose, itself, or the patient, I think is really nice. Yeah.

MARK SEDDON: Are you involved directly with any of the procedures? I mean, like, do you participate with, like, the TheraSpheres or gamma tiles? Are you more of the compliance side?

WILL GIBBONS: I'm more the compliance side. So, so like, safety oversight. Pencil pusher type of a deal.

(Laughter)

MARK SEDDON: They keep everyone in check. You're the one that tells people what to do.

WILL GIBBONS: Again, I make the rounds. I don't sit at my desk that much because, like, I mean, that gets old, too. But I mean, I visit nuclear med; IR, basically, daily. I check in. I, like, watch some stuff. And I have active

conversations with them. The physicians, the technologists really to, like, get everyone's perspective on how things are going. Where can we do better and just to -- because I believe it's important to have all people involved from the technologists pushing the dose; the physicians so that we're all on as close to the same page as like possible. And, like, I feel my going around by chitchatting, I mean I don't -- I think all of that really helps. Even though I am more a compliance side, I think that that does have an effect on the physical work, too.

Thank you all.

ALL: Thank you.

MARK SEDDON: Appreciate it.

(Applause)

JAMES FUTCH: I wanted to thank Will for being willing to, very late in the process, listen to some guy, called him on the phone -- Adam called him -- and be willing to come and do this for us here today. So thank you very much.

WILL GIBBONS: Thank you.

JAMES FUTCH: Did you have any question that -- you may want to hang around and listen to Clark's talk about medical events. You missed a little bit

of Kevin just before lunch talking about the nuclear medicine events.

WILL GIBBONS: I would like that talk.

JAMES FUTCH: Thank you again, Will.

RANDY SCHENKMAN: Yes. Thank you.

Okay. Clark?

CLARK ELDRIDGE: All right. I guess I'll start with the part we didn't go over earlier. A little overview. I don't that I really told you all this before about the program. Year over year type statistics.

So in 2021, we had 21,000 -- wrong. Back up. Wrong thing I'm on here. All right. In 2021, we had 18,410 facilities that actually paid. 18,866 that we are looking to get money out of. Some which have maybe gone and never told us. We're not sure what the percentage there is.

In -- I mislabeled something here. Okay. Back up.

JAMES FUTCH: If you don't tell us, we wouldn't know.

CLARK ELDRIDGE: Now I'm reading my notes right. 2021, 18,410. Year to date paid. This year, a total of 2021, this year year to date, 18,866 registrants. So last year total was 19,383.

This year, year-to-date registrants is 19,838. So we're getting more people registering and using the machines. Both those that haven't paid and those who have paid.

Fees per the program, 2021 for the year was from folks who were actively, what am I going to say here? Registered only for that year, 2.8, $2,885,000. And for -- that we billed and 276 -- 2,765,000 have been paid. Year to date this year, we billed $2,853,000 and we received $2,703,000.

Compared to if you were to go back to last year on -- on May 5th, we would've only billed, at this point, $2,807,000 and received $2,718,000. So we've actually, as of May, we've billed for more fees. People applying for registrations, people for adding tubes in the annual renewal. We're ahead of billings for this year; behind it for collections.

With personnel update, the program, we lost one of our reg. specialists. We have two that help process all the paperwork that people sent in, so we've been half the staff. Right before renewals last year. First of September. Left us and took a job.

I'm sure this might sound familiar to many of you all. It took five tries to get somebody on

board. We haven't still got them in the door working yet, but the paperwork is supposed to be moving along. The first round of hiring, people couldn't pass our basic skills test with some few logic questions and proofreading and computer skills.

The second round we had someone who had excellent scoring but they were previously dismissed from the agency and we couldn't get around that. The third round was where it got real interesting. Of the people who passed the applications and normally, we would have 50 to 100 applications. We're getting ten, right?

So five passed the application scoring. Two declined interviews and two were no shows. Didn't call. Just didn't show up for the interview.

Fourth round of interviews, same thing. We scheduled three people. None bothered to show up for the interviews.

ADAM WEAVER: None? Wow.

CLARK ELDRIDGE: So this was the fifth round we just finished last month and even that, we had four people that applied; that passed the criteria. One declined, one was a no show and two interviewed.

GEORGE GILBRIDE: You're up two from the month

before.

CLARK ELDRIDGE: Exactly. We found a good candidate this time. So hopefully the person will be on board all of our steps in the hiring procedures within our agency goes well.

We currently have one outstanding variance request that we're working on. This is a law firm from Tampa who's requested to -- Tampa and New York. Who's requested to use an XRF to shoot peoples' shins to look at the lead in bone concentration. And they're proposing an individual who determines who should receive this experiment and whatnot, is a Ph.D, not nonmedical, out of Massachusetts is what they requested up in the Boston area, I think. I'm not sure about that right now.

This was actually the same group, law firm used this in a lawsuit in Flint, over the water, lead in drinking water in Flint and they're proposing it for a lead exposure lawsuit here in Tampa.

Current rule development that's undergoing. I reported earlier that a couple years ago, we actually had an update to our statutes specifying how human beings may be exposed to the useful beam of a radiation machine. So the first category is for the purpose of medical or health care. If a

licensed health care practitioner operating within the scope of his or her practice has determined the exposure provides a medical or health benefit greater than the health risk proposed by the exposure and the health care practitioner uses the results of the exposure in the medical or health care of the exposed individual.

The other one is, it previously there is no explicit authority in statute for security screening. For jail inmates and things, using the transmission x-ray scanners to look for contraband in the digestive tract where they've hidden stuff internally. So there's still isn't an explicit category for registration for these folks, but there is now allowance that says for the purpose of providing security at the four facilities or other venues, if the exposure is determined to provide a life safety benefit to the individual exposed which is greater than the health risk imposed by the exposure, and such determination must be made by an individual trained in evaluating and calculating comparative mortality morbidity risk according to the standards set by the Department to be valid, the calculation method of making a determination must be submitted and accepted by the Department. Limits to

annual total exposure for security purposes must be adopted by the Department rule, based on nationally recognized limits or relevant consensus standards.

So, of course, this is the ANSI standard for security scanners. I think it's 250. I can't say the unit. It's not micro. Is it micro? Micro a year.

CINDY BECKER: Per year?

CLARK ELDRIDGE: I can't even remember, I can't remember what the limit for, for annual exposure for those folks.

CINDY BECKER: 25 millirem. 250.

CINDY BECKER: Millirem.

CLARK ELDRIDGE: The maximum individual exposure I think is 250 microrem, something like that. Something on that order.

ADAM WEAVER: For one shot.

CLARK ELDRIDGE: One shot.

CINDY BECKER: There you go.

CLARK ELDRIDGE: The systems are designed to be operated down to, again, I can't remember all the frigging limits in my head. But, of course, when you look at the images from the lower exposure, you really can't see defined, you know. Examples, they've got apparently people swallowed stuff they

shot with it and low res you really can't see the packet in there and you have to go up to 250 to see the defined.

ADAM WEAVER: You can't detect drugs in a plastic bag.

CLARK ELDRIDGE: Right. You have to have a higher dose to get the bags.

ADAM WEAVER: Are you going to copy your definition from that ANSI standard?

CLARK ELDRIDGE: Well, part of it.

ADAM WEAVER: Of who needs --

CLARK ELDRIDGE: Now?

ADAM WEAVER: The basis for when you need to take one of these.

CLARK ELDRIDGE: Yeah. The trick, part of the thing here is of course, the current rule says it's only for individuals who are legal detainees can be exposed.

ADAM WEAVER: No visitors, yeah.

CLARK ELDRIDGE: Yeah. And so, the current is to actually flesh out the rules for Part B. It's, you know, this is a requested by Department of Corrections. Department of Corrections two years ago had submitted a request to expose -- to use these machines on anyone entering their compound.

Their confines. And the response from the Department stated things like, your concern here is with people, you're using a transmission x-ray that produces an organ dose and your concern here is for individuals carrying something into their colon or in their gut. You haven't -- your request for everybody doesn't describe how all the other population is supposed to remove things from their colon or their gut while they're in there and handed off. So if a lawyer is coming in to see a client, you know, an inmate, a family member, a service provider, a vendor comes on to your thing, you haven't described how this is -- why they should be getting an organ risk dose, because that's a risk for them to carry stuff behind your security line that way.

Also, the fact that there are actually kind of multiple security lines and standards within a prison. It's not just one monolithic, and how you would consider applying it to that, when if you're worried about for a bunch of these other folks, why aren't you using back scatter or millimeter microwave for searching people. That you don't have to give an organ dose if there's not a reasonable way you expect them to be able to extract something

and pass it to someone else. That was -- and then, so they're very interested in us moving forward with this.

Another thing I'd like to talk about is -- and get your group's opinions on this and anyone else who would like to comment. Dental mobile providers. Okay? So in the history of dentists or x-ray and dental, our rules are really written for your -- I can't say traditional because you'd have to put a time period on what the tradition to consider -- of you go sit in your chair at the dentist, they clean your teeth, the wall-mounted bitewing machine or the hallway handheld, that's where your x-rays are. And so, we haven't required RPPs for dentists at this time because it's a very controlled environment. It is a low energy machine. 70KB. Something along that line.

When they started using handhelds, again, this was first conceived primarily in a dental office and/or if you want to consider this also in a mobile dental facility. Putting a dentist into a van, into a bus, something like that. So you still have your controlled dental environment that meets all the standards for the Board of Dentistry for sanitation and all that type of stuff.

Handhelds, at that point, somebody is holding an x-ray tube and while the machines are safe to use, you won't know if they're doing something stupid with it or if there's some sort of odd defect in that machine that's causing an exposure if something isn't wearing a dosimeter. So we required a dosimetry for handhelds, even though, again, for dental handhelds and those are currently the only handhelds permitted under our rules to be used in the state.

ADAM WEAVER: Really? Is that decision based on inspections or interviews with the techs to -- I mean, the dental hygienists, I guess, doing it, because, you know, just some of the old systems were not, you know, a long time ago, the ones that you think are fixed units, people still, you know, told the patients to hold them or they held them because the -- you know, the counterweight of arm wasn't working right.

CLARK ELDRIDGE: That's actually an inspection criteria and that's specifically prohibited in the rules.

ADAM WEAVER: Right, but --

CLARK ELDRIDGE: Yeah, we receive complaints occasionally from hygienists saying, I'm having to

hold the tube. Can you come out and tell the dentist here you can't make me do this anymore.

ADAM WEAVER: Yeah.

CLARK ELDRIDGE: And that's --

ADAM WEAVER: Have you seen results, any positive results, or any dosimetry results from the handheld units?

CLARK ELDRIDGE: At this point, nobody has reported anything to us, but they don't have to. They just have to monitor it.

ADAM WEAVER: They just have to wear a badge.

CLARK ELDRIDGE: They have to wear a badge and monitor their results, just like and we don't expect --

ADAM WEAVER: Do they have criteria for them?

CLARK ELDRIDGE: It's the same as everybody else. All medical professionals.

ADAM WEAVER: Five rem per year?

CLARK ELDRIDGE: Yeah. We never expect to see anything reported as an overexposure, but -- you know, although you mention it, we probably do want to set up some reporting criteria for them. And again, this is part of the -- would be part of the discussion here, would be about an RPP, do we need a --

ADAM WEAVER: Yeah. If they exceed 100 millirem a year, like --

CLARK ELDRIDGE: They need to find out what they're doing wrong because they should be pretty much to zero if they're using it properly.

ADAM WEAVER: Yeah, right.

CLARK ELDRIDGE: And the other thing is maybe you should require ring badges.

GEORGE GILBRIDE: Their hands. That's probably going to be the highest exposure than anything.

ADAM WEAVER: Most likely, it's going to be the scatter from the patient back to the individual guys shooting it. You're not going to get much on your rings because it's actually like a gun.

GEORGE GILBRIDE: The one I have is a two hands.

CLARK ELDRIDGE: No, they have two hands.

ADAM WEAVER: They also have that but it's still a gun.

GEORGE GILBRIDE: Kind of like this.

ADAM WEAVER: You can do finger rings, but that's more of a problem because you're going to have to wear it under their gloves.

CLARK ELDRIDGE: Yeah.

ADAM WEAVER: Which direction are you going to

make them do the ring, because the rings are very directional orientation wise for the active element. The whole body exposure is more important because what's the limit for your hands versus --

MARK SEDDON: An extremity ring is ten times higher, so I wouldn't worry about the rings.

CLARK ELDRIDGE: All right. That settles that. I appreciate your input.

So right now we have a couple companies in Florida that have a hygienist that goes door to door -- or I shouldn't say door to door. They will go to -- into facilities to provide dental care. Which the statutes for dental hygienists is very clear. It says, upon a patient of record of a dentist who's issued a prescription for the services of a dental hygienist, which prescription shall be valid for two years unless a shorter length of time is designated by the dentist. Licensed public, they can go to license public and private health care facilities, other public institutions in the state, federal government. Public and private educational institutions, school clinics, right? The home of a non-ambulatory patient and other places in accordance with the rules of the board.

I've been trying to find the other -- any

rules. I couldn't find any rules that specified any additional locations than those specified by the board. But we have these folks going out. We found one who advertised that they will go to your workplace and set up a clinic, which is explicitly not here. I certainly understand going in to ALFs because that's somebody's home or in the nursing homes. That makes perfect sense.

ADAM WEAVER: Yeah.

CLARK ELDRIDGE: The fact they're not necessarily maintaining anything, they're not necessarily -- they're out -- they're sort of in the wild now.

(Cindy Becker and Brenda Andrews Leave the Meeting)

CLARK ELDRIDGE: Of this practice, whether or not we should consider requiring RPPs at this point for these dental hygienists and have some procedures and standards for them concerning radiation safety. Because they're out carrying these handhelds into, you know, it's not a controlled environment anymore.

ADAM WEAVER: Yeah. The RPP could be as simple as follow the manufacturer's guidelines or for use or copy those in the RPP, or the state could come up with a generic one.

MARK SEDDON: Makes sense. Yeah. Come up with one, a model RPP. We have one for mammography. You have one for other -- that are low dose types of studies that potentially don't have a huge risk.

ADAM WEAVER: Portable X-ray machines.

CLARK ELDRIDGE: Of course, the additional thing is our current code requires that portable or mobile equipment only use for examinations that are impractical, which --

MARK SEDDON: Yeah.

CLARK ELDRIDGE: -- you know, is somewhat interpreted as for non-ambulatory. You can't get the person to the machine. There's also the hospital general dispensation because you need that x-ray now. You going to bring the machine to the person, you can't get them, you know, it's a life safety thing.

ADAM WEAVER: You can't move them out of the ER or something.

CLARK ELDRIDGE: You know it's not in the -- and as far as my understanding, it's not within the dentist's scope of practice to make this determination whether it's practical to get the person to the machine. I mean, they can't determine if somebody's got a broken leg. That's practicing

medicine.

MARK SEDDON: Right.

CLARK ELDRIDGE: So there's an issue whether or not we need to make sure that these people all have a list for, for every place they're going.

MARK SEDDON: So licensed practitioners does not include dentists?

CLARK ELDRIDGE: That's using the machine.

MARK SEDDON: Right.

CLARK ELDRIDGE: But is it within their scope of practice.

MARK SEDDON: Okay. I gotcha.

CLARK ELDRIDGE: They can tell you if you've got a bad tooth and can pull it, but they can't tell you --

ADAM WEAVER: They can't tell you you've got a broken leg.

MARK SEDDON: Yeah.

CLARK ELDRIDGE: Right. That's not within their scope. So that they've actually required, you know, got orders or something like this in their list of folks where these hygienists are going that verified, yes, these people can't make it out to do it. I think that's pretty simple at a nursing home.

Now again, another situation would obviate

these is establishment of a temporary dental facility type thing. Where there are in some of these group homes and these ALFs, they have clinic space, right? So if they limit their service to the clinic space --

MARK SEDDON: Yeah, makes sense.

CLARK ELDRIDGE: -- then that would be part of our requirement for an RPP or discussion, you know, in the guidance document.

ADAM WEAVER: Probably in the guidance document you want to include or insist they only use digital imaging.

CLARK ELDRIDGE: True.

ADAM WEAVER: Because if not, there's no way to develop it --

CLARK ELDRIDGE: Right.

ADAM WEAVER: -- quick enough to get a --

CLARK ELDRIDGE: Although, I don't know that anything has bought anything that wasn't digital in Florida in how long. It's been a couple years.

ADAM WEAVER: It's still --

CLARK ELDRIDGE: There's still some people using film out there.

ADAM WEAVER: It's a doctor's office with a developer or --

CLARK ELDRIDGE: Yeah.

ADAM WEAVER: I don't know. People still use tanks.

CLARK ELDRIDGE: So any other discussion if this is -- we should be going forward with developing this or --

MARK SEDDON: That makes sense.

ADAM WEAVER: Is there that much usage? Even if it's complicated --

MARK SEDDON: What's the volume of portable devices, do we know?

CLARK ELDRIDGE: We currently have, I think, three registrants that are doing this. I don't know how many that might not be that we don't know yet because how we found these three is they said their physical location was a, you know, you show up at the physical location, it turns out it was a rental, a co-working space where they rented a desk or it was a mail drop. And they weren't bothering to tell us and we had one of the companies, national company doing this, well, we don't want to tell you where our hygienists are their homes. It's like, we go into people -- there are, there are mobile CRM providers in the state that store their machines in their garage and we go out to their house and test

the equipment in their garage when they're not deployed. That's not a problem. You have to tell us where you keep your -- the statute says you've got to tell us where you keep your machines --

ADAM WEAVER: Yeah.

CLARK ELDRIDGE: -- you know? So -- the one that came up two weeks ago, which is one reason I decided to add this, was they went, turned around and put their home on the registration after we explained to them you have to give us a physical location.

ADAM WEAVER: Most likely we're going to find more of it because these machines --

CLARK ELDRIDGE: We do know there are mobile dentists out there.

ADAM WEAVER: Yeah.

MARK SEDDON: Yeah.

CLARK ELDRIDGE: And the trick is are they, you know -- and again, in the sense they're going to someone's private home, which it says they're non-ambulatory, I don't see that that's necessarily an RPP issue. The big one is the ALF or some other location where they may make an attempt to go room to room and if there's any, versus --

ADAM WEAVER: Mm-hmm.

REBECCA McFADDEN: A nursing home?

MARK SEDDON: I think it doesn't make -- there's no sense not doing it in our state. We might as well have one developed and be prepared for it.

ADAM WEAVER: Has any other states or CCRP, what is it?

CLARK ELDRIDGE: Nothing I've seen but again, this is --

ADAM WEAVER: This is new.

CLARK ELDRIDGE: It's not new, but it's coming to a point where -- there wasn't a competing interest that pushed it back down before I got around to discussing it.

ADAM WEAVER: Okay.

CLARK ELDRIDGE: I'm sure something else will jump up tomorrow.

ADAM WEAVER: It's Friday.

REBECCA McFADDEN: Now we have portable dentistry.

ADAM WEAVER: That would be next Friday when it's Friday the 13th.

CLARK ELDRIDGE: Okay. So let me find -- where's my list of medical events now. Okay. I maybe I'll start with the simpler ones.

MARK SEDDON: Can I ask one question since finished up with the machine? I know you presented some draft information notices last time. Are those moving forward or --

CLARK ELDRIDGE: Yeah. They've been forwarded. And I keep thinking I've mailed them to be posted and every time I look, it's like, I didn't get them over to Brad to post yet, so they need to be posted.

MARK SEDDON: Okay.

ADAM WEAVER: They're not on the website yet.

CLARK ELDRIDGE: Not on the website yet.

MARK SEDDON: Okay. Thanks.

CLARK ELDRIDGE: So wrong site, electron beam therapy for a skin lesion. Patient comes in to -- I didn't record which treatment this was. But for fraction. Pulled up their pant leg and the therapist, okay, that looks like the right lesion and treated it and it turns out it was -- the actual lesion to be treated was 17 centimeters proximal up the leg, rather than the one that was treated.

JAMES FUTCH: So it was a target rich environment.

CLARK ELDRIDGE: This case wasn't as target rich. The last one we discussed it was target rich. This last one only had two on the leg. It wasn't

the one time where the person had like 15 or some ridiculous number of questionable spots on their legs.

And so when they came in the next day, they pulled up the pants leg higher and said, oh, that is the right one. So that was basically failure to follow proper time out. They didn't actually review the material that said, yes, it's over here, not there that closely. And then, you know, because there was data that, paperwork sent to us showed they actually had measurements and photo with the ruler showing where it was supposed to be.

ADAM WEAVER: Right.

MARK SEDDON: Was it a physician who said it or was it a therapist?

CLARK ELDRIDGE: Therapist. Strictly therapist this time.

Two wrong patients. Both in this case were both prostates. So Patient A was next up to bat. He went to the bathroom and when the therapist came out to call Patient A, Patient B said, okay, I'll come in and do it.

ADAM WEAVER: I'm close enough to that name.

CLARK ELDRIDGE: So Patient A was asked for their date of birth and responded with their actual

date of birth. And the therapist didn't really pay attention to the date of birth and just checked, clicked off. You know, confirmed date of birth. Name, face verification system. The therapist then realized they had treated the wrong patient. After completion, when they went and escorted Patient B to the waiting room and there was Patient A and recognized that, you know.

ADAM WEAVER: It was my turn.

CLARK ELDRIDGE: Yeah.

ADAM WEAVER: Oh. Do you guys cite these people, like Kevin did, financially or are you allowed?

CLARK ELDRIDGE: Well, this will go through the -- again, if it was the facility's lack of SOPs, it's one thing. If it's a -- when it's the therapist making mistakes, that's when it goes to MQA to review and determine what the appropriate action for the therapist is.

ADAM WEAVER: Then they get involved.

JAMES FUTCH: Actually, it comes back to me to determine probable cause or not. And you would be surprised if you were to learn, maybe not, that we tend not to recommend actions on things we don't think have probable cause.

CLARK ELDRIDGE: And some of these are the problem during the pandemic with masks and I hate to say it, apparently, when we get over certain age, we all start looking more alike with a mask on maybe. I'm not sure.

REBECCA McFADDEN: They can't hear you, they think you're saying, they're reading lips.

MARK SEDDON: Yeah, that's true.

GEORGE GILBRIDE: So depending on some of those masks, if they were cloth, sometimes my wife and I would have, you know, and I mean, granted neither one of us are spring chickens anymore, we both would be like what, what? Because it's muffled. Sometimes you just don't hear.

RANDY SCHENKMAN: Yeah, that's true, too.

MARK SEDDON: Sure.

CLARK ELDRIDGE: Next one, patient as I said it was prostate. Therapist set up for Patient A. Went to the waiting room. They found that Patient A hadn't shown up yet. They decided to take back Patient B. They went into the, um, vault and set up the -- changed out the clinical set up properly for Patient B. Performed a verbal time out in the room because they knew it was the person. The problem is there was normally a room monitor in there that

displayed what was on the, what was still set up for treatment. And the monitor was out. So the equipment was out so they couldn't look up at the monitor and verify the display that showed the person to make sure their name and date of birth. But they knew they had the right person and whatnot. So they go back in, run the treatment, and then after treatment, they realize they still had Patient A's treatment plan loaded on the console.

Last Friday, no details yet. Called in. All we know is a laterality, laterality error. I can't say the word right now. As I said, no details. But left hip versus right hip. Right hip versus left hip. We're not sure of the -- now, another wrong site, since neo, neoplasm cervix, the treatment involved pelvis area with boost treatments to bilateral parametrium and selected pelvic lymph nodes. So the patient was set up for the parametric -- parametrium, left parametrium boost. But when the CBCT was required, the treatment system, control system for the machine requested shifts outside the tolerances. And interestingly enough, the CBCT image, as it was pulled up, was loaded, was named with the Ellen boost rather than the left parametrium boost. The machine actually

applied that label to it when it loaded it, even though they set up for the left parametrium.

The therapists weren't too concerned with the shifts because the patient had a very large habitus which frequently will cause some significant shifts over the, over the course of treatment. But they were still concerned about the -- why the system renamed the CBC -- categorized the CBCT image incorrectly.

So after treatment, they contacted the physics folks. And they investigated and found that the 3CT field for this treatment, for the left LT BMP prescription was actually moved in the system to under the Ellen boost. They tested this out; found out in Mosaic, you could move these fields underneath the prescription without any restriction. The system allowed you to just drag, you know, whatever they got moved and there was no warning. There was no nothing. So somewhere between the day before and this day, somebody was in there. They don't know. Click and drag. Because they, they went in after and looked at the previous boost fields and they were also renamed. They also had the name Ellen boost.

So that's one of the other ones they went ahead

and treated because all the other images captured for this boost treatment. So what happened is when the person moved it, not only -- it also renamed, the system automatically renamed, recategorized all of the associated CBCTs for that field, for that treatment field, with the new prescription section name. So it moved it one prescription to the other and automatically renamed it and this is a Mosaic --

MARK SEDDON: Mosaic.

CLARK ELDRIDGE: -- quirk. And so they have requested assistance from Mosaic to fix this glitch. System update.

MARK SEDDON: Was it a recent system update they just did? That's why?

CLARK ELDRIDGE: Excuse me?

MARK SEDDON: Have they recently did a software update?

CLARK ELDRIDGE: No information on that. So, again, this was only one boost treatment that this occurred. So it was all within the same treatment field. So, you know, the result doses were within the overall treatment doses and critical, you know, all the dose targets and critical structures were still in the tolerances so -- for the total treatment.

MARK SEDDON: Is the reason why they waited until after the treatment is they are exceeding shift before reaching out to physics?

CLARK ELDRIDGE: Well, they were -- they didn't feel it was too out of line since the person had a very large habitus.

MARK SEDDON: Okay.

CLARK ELDRIDGE: They seemed --

ADAM WEAVER: Still within the range.

MARK SEDDON: I thought they were exceeding their tolerance range.

CLARK ELDRIDGE: Well, the tolerance limit was 5 centimeters. It was 6.5. And it was their experience, they've had to deal with this with rather large people before between treatments.

MARK SEDDON: Okay.

CLARK ELDRIDGE: And so that was -- and we still have one medical event outstanding from last August. We're waiting on clarification from the facility on procedures. We requested -- this was where the difficulty in imaging led to a wrong treatment site. And part of the procedure -- the updated procedures include to require the doctor to assist except when they're not present. And so we're asking to clarify what not present means in

their procedures. What their SOP is to make that determination because it was kind of a very broad, simple statement in their response. So we requested clarification on that.

And I think that covers all of my -- yeah, that's it. My notes. Any questions?

(No Response)

JAMES FUTCH: Okay.

RANDY SCHENKMAN: We'll move on.

JAMES FUTCH: I'm next. All right.

RANDY SCHENKMAN: James?

JAMES FUTCH: So I have a, a little bit of background to give you and then I want your guidance and your recommendation, if you will.

As you may know, if you've been on the council before, when it comes to the Rad Tech group, we require continuing education for the profession, 12 hours every two years to renew a license. So, Becky, for example, the question has come up, and there's one more piece of background. When we approve continuing education for use for the State of Florida, we do so according to a set of national consensus standards.

We do that for a couple reasons. One is that there's a distinct monetary advantage to the

technologists. Florida is one of four or five states that approve CE, themselves. And then the rest of the CE for the Rad Tech profession and national level, also follows these consensus standards. And involves recognized continuing education, evaluating mechanisms. We call them RECMEs (ph). That's a fancy name for something that's not a state yet approved CE. For example, the American Society of Radiologic Technologists, the Society of Nuclear Medicine, Nuclear Imaging medicine, American College of Radiology. American Institution of Ultrasound and Medicines, Society of Diagnostic Medical Sonographers. You get the idea, right? Think whatever your modality is and that's your society or organizing group. Including the Canadian Society of Medical Rad Techs. Thirteen in all.

And because we use the same standards, all of these organizations, public, governmental agencies, private groups, we -- when we approve CEs, say, for example, 12 hours for Becky in Florida, she can take that same CE and use it to renew her license, for example, with ARRT, the American Registry of Radiologic Technologists. Or if she happened to be a nuclear medicine tech, you know, so forth, with

the MTCB.

So if you look at it from a monetary perspective, let's say the average cost of 12 hours of CEs is 50 bucks, right? And in Florida, there are somewhere in the neighborhood of 25,000, 26,000, give or take, technologists. And when we looked most recently, in the past couple months or so, at the Florida technologists and the ARRT technologists whose licenses are based in Florida, it's within a couple percent of one another. I mean 95 percent. It depends on how you count the numbers. Give or take. But basically, very close to a hundred percent are licensed by both organizations.

So if you run the numbers on that, 25,000 times 50, you come up with about a $1,250,000 impact whether or not you're CE, the same CE that you approved, that you get from one organization can be used with the other.

So to us, it makes sense to comply when we approve a course, with these national consensus standards. I call them consensus standards because we actually meet once a year with this umbrella group at ARRT's location in Minnesota and go over, hey, the formula for the number of test questions that you need to have for, you know, an online

activity for this much material, should be this many questions for this much material; you know, this kind of stuff. And I think we do a pretty good job of it so that when someone who's been approved in another state maybe wants, like, a course that's been approved by one of the other organizations and they want to, want to have us look at it, we come up with the same numbers.

And so it, it is a national consensus. It's not one organization dictating to all the rest. The umbrella for all of this is ARRT. ARRT also has meaning to us in a couple different ways separate from CE. Number one, it's the organization whose test we use for our state-level exams to become a technologist. So if you want to become a radiographer, you would take the same test administered by ARRT, graded by ARRT and given back to the state as the scorer. They do that, they perform that function for 33 other states.

In fact, to the best of our knowledge, they're the only game in town for state-level exams. Nobody recreates or comes up with their own test for this profession. If you're in a state that actually licenses your Rad Techs, you're going to use ARRT. And there's some other reasons beyond that.

But I explain this and I know it sounds blindingly obvious. I know to most people it does I explain it to. That's because I think we think with logic and with common sense and reason. And all parts of the system in a government don't necessarily operate that way. So once in a blue moon, you have to, you have to explain things.

And what I would, I would like, I guess, is to find out whether the council recommends that we continue to abide by the national CE consensus standards as we have done since about 1984. Any discussion?

RANDY SCHENKMAN: Would there be any particular reason not to?

JAMES FUTCH: None that I can think of.

ADAM WEAVER: Is there a cheaper way to do it I guess?

JAMES FUTCH: None that I can think of. I think we actually -- honestly, when somebody asked me this, I'm like, what? What possible reason would you --

REBECCA McFADDEN: Why would you not? Like, it doesn't even make sense.

JAMES FUTCH: How am I going -- so I have a system that in minute detail explains how to

evaluate credentials, how to, you know, is the person skilled in this area. How many tests -- the example I gave before, how many test questions should you use, this amount of hours of CE or, you know, it's a formula that involves a couple different parameters. And I begin to think, good lord. If I wanted to come one another mechanism, first of all, why? Number one, what would I do other than what, you know, 13 other organizations that also license in many states and the national registry do.

And honestly, I think the only -- it's not really a -- the question is, as it comes to me is not necessarily one from people who care or think or know of another way to do it or another consensus standard. It's simply the way lawyers think. Prove it to me, you know. How is, how is this the, the correct one. Well, it's -- I just gave you the evidence. It seems convincing to me. It seems convincing to the Department of Health. It has been since 1984.

And I apologize for asking such blindingly stupid questions, but it would be, it would be good to know if the council recommends that we continue to use the ARRT national CE consensus standards with

the whole thing.

REBECCA McFADDEN: Right.

ADAM WEAVER: Is this something you want to vote on?

JAMES FUTCH: I would love to if it's possible.

RANDY SCHENKMAN: Okay.

JAMES FUTCH: So the question would be.

MARK SEDDON: A motion to --

REBECCA McFADDEN: To continue using the same standards for the state as it is for ARRT. Motion to approve.

GEORGE GILBRIDE: You figure, I mean, you're a Rad Tech. And even through the ASRT, if you join them, you get their magazine, you got all those CEUs you can get from there, which is all standard. If you do that, you set up with that, it goes right over to the state anyway.

JAMES FUTCH: Exactly. And that's a good point because many, many years ago because of this consensus framework, we accept everything that, that ASRT like, for example, the directed --

GEORGE GILBRIDE: Director meetings.

JAMES FUTCH: Stuff like that. So we set up an interchange between our system and theirs. And they were happy to do this. So every month we get into

our system for technologist use in Florida from ASRT, I think it's 8,000 credit hours. About. About a thousand technologists renew each month in Florida, give or take. And I think that the numbers that we just ran was 8,000 total credits, 1100 unique courses or 2000 unique courses. It's a heck of a lot of CEUs that comes in that you never know about and you never know about. It's just something the organizations do because this consensus standard framework. We accept each others CE.

GEORGE GILBRIDE: The RAs need 24.

JAMES FUTCH: Yeah. Well, ASRT requires 24.

REBECCA McFADDEN: Twenty-four in two years and then 12 yearly. If you do 12 every year for the state, you got your 24 for the two years. That's pretty much how we've all done it.

JAMES FUTCH: So the -- to put the question, if, with the Chair's permission, to put the question back out there is, is it the council's recommendation that DOH use the national CE consensus standards to approve CE? The ones that I've described.

RANDY SCHENKMAN: Okay. Anybody want to second the question?

JAMES FUTCH: Or provide the first motion? I

can't make the motion.

MARK SEDDON: You can't make a motion.

JAMES FUTCH: Somebody has to make the motion.

REBECCA McFADDEN: I can make a motion --

RANDY SCHENKMAN: Okay.

REBECCA McFADDEN: -- to approve.

GEORGE GILBRIDE: I'll second it.

REBECCA McFADDEN: -- continue using.

JAMES FUTCH: All right. All in favor

ADAM WEAVER: To continue.

RANDY SCHENKMAN: To continue. All in favor to continue as is.

ALL: Aye.

RANDY SCHENKMAN: Any opposed?

(No Response)

RANDY SCHENKMAN: No.

JAMES FUTCH: Thank you very much. I appreciate that.

RANDY SCHENKMAN: Okay.

JAMES FUTCH: One more thing. I was texting in communication with some of the other members about the date for the next meeting.

I need to introduce, in addition to September 22nd, I'd ask Brenda to do this but she's not here. Some have difficulty with September 22nd. I know

we'll figure this out. But I wanted to put September 15th out there when we're all sitting here and see if there was any problem. That was the other date that was suggested. That's another Thursday. Obviously, the week before.

RANDY SCHENKMAN: I don't think I'll be able to make it that week. I can do the 29th.

JAMES FUTCH: All right. My problem with that is I'm out that week.

RANDY SCHENKMAN: Okay.

CLARK ELDRIDGE: One of the goals is we have it before Cindy retires.

JAMES FUTCH: We didn't mention that. Miss Becker is retiring the end of October.

RANDY SCHENKMAN: So what about October 6?

JAMES FUTCH: That's the ASRT -- not the ASRT or Florida RT, Becky, that's happening.

REBECCA McFADDEN: FSRT?

JAMES FUTCH: Yeah. Kathy --

REBECCA McFADDEN: It's the Florida society, so it's FSRT.

JAMES FUTCH: Kathy said one of the societies they're hosting here and it's that week of the 6th. The week that contains the October 6.

REBECCA McFADDEN: I don't know.

GEORGE GILBRIDE: AARP is having a conference from September 30 to October 2nd.

JAMES FUTCH: We're going to put it back out in the e-mail poll and we'll see. Hey, maybe we have to go to a Tuesday. I don't know.

ADAM WEAVER: Tuesday might be better.

REBECCA McFADDEN: Yeah. I know I --

ADAM WEAVER: I got a committee meeting on the 15th.

JAMES FUTCH: On the 15th?

MARK SEDDON: Tuesday might be easier.

JAMES FUTCH: So that would be, what is it, three days earlier? That would be the 12th?

REBECCA McFADDEN: Monday? The 13th is a Tuesday.

ADAM WEAVER: The 13th or 20th, yeah.

RANDY SCHENKMAN: I know I'm not going to be here the week of the 13th. Let me check on the 20th.

JAMES FUTCH: So maybe the 20th?

RANDY SCHENKMAN: I'll check on that.

JAMES FUTCH: All right.

MARK SEDDON: Could I ask one question?

JAMES FUTCH: Sure.

MARK SEDDON: I guess between you and Clark.

It's the same question that we kind of talked about before. Modified barium swallows with speech pathologists. Is the official, that there been any discussion on that more recently than I know we've talked about this in the previous years, having speech pathologists be allowed to the, be the practitioner of record so that their radiologists do not have to be physically present during modified barium swallows or is that still a --

JAMES FUTCH: Clark and I haven't talked about this in several months and I hesitate to try and recall all of the history, but as I recall from, from us, the issue was the speech pathologist doesn't fall under the definition of licensed practitioner in the statute for the Rad Techs. So they can't provide the general supervision that's required.

MARK SEDDON: Okay. Because I think that's where the push is from other states, people from other states, and from the national relations is that the speech pathologists are overseeing the swallow portion. The radiologists are doing the interpretation after the fact. But is that the, the Florida unique requirement of fluoroscopy performed by a licensed practitioner. I think that seems to

be the one key.

JAMES FUTCH: Well, I --

GEORGE GILBRIDE: At UF they were using one of the RAs, as far as doing the --

MARK SEDDON: You can use RAs.

REBECCA McFADDEN: I was in Georgia with my nephew and the speech pathologist was doing --

MARK SEDDON: That's how it is in a lot of other states.

REBECCA McFADDEN: -- doing the swallow study with fluoro --

JAMES FUTCH: If you look at it from the proper fix perspective, I think the whole medical profession treats the language speech pathologist as if they are the practitioner for this, for this thing. And the statute, from my part of it, just doesn't allow the general supervision to take place from that.

MARK SEDDON: Right.

JAMES FUTCH: General supervision could be provided by another physician, but I think the rule, the way that I always read the rule was, they're trying not to use the general radiographer as if they were the physician.

MARK SEDDON: Right.

JAMES FUTCH: So that they're not providing interpretation or determining where the imaging should take place. That's the purpose of that, of that 64E-5 fluoroscopy regulation. Do you see something different there?

CLARK ELDRIDGE: No, it sounds --

JAMES FUTCH: It sounds so close, it should be something that should allow --

MARK SEDDON: It says the procedure interpretation is being performed by the speech pathologist. They do the billing and they do the procedure. Do we add the radiologist just because of the fluoro component in reality?

JAMES FUTCH: We have to go back and look at that rule. What do you think if we modified that rule and put in a -- I hesitate to put in things specific to a particular imaging procedure because it gives sometimes ideas to people.

CLARK ELDRIDGE: Right.

JAMES FUTCH: We can do that. Let's do this. And they drive a truck through it.

MARK SEDDON: Yeah. I know that's --

JAMES FUTCH: What are they doing in other states?

MARK SEDDON: In other states, as in Georgia,

they don't require --

CLARK ELDRIDGE: What is the Rad Tech licensure like?

REBECCA McFADDEN: I don't know. He was a patient.

JAMES FUTCH: They don't do state level licensure. They may somehow recognize ARRT licensed techs.

MARK SEDDON: If you read the scope of practice for speech pathologists and their certification boards and things like that, it says that they are qualified to do supervised fluoroscopy for modified barium swallows, however, pay attention to your local state regulations because there's states like Florida where there's restrictions. So I think that's kind of like where the --

JAMES FUTCH: One fix which would, which would be a legislative fix, would be simply add the speech-language pathologist to the --

MARK SEDDON: To the licensed practitioner. Which is very limited.

JAMES FUTCH: And don't take off the physician practitioner somehow and say, oh, it's the same as --

MARK SEDDON: I think they tried. I think

there was, at one point, an effort at that.

JAMES FUTCH: There's danger in doing that, too. You open that statute up for something like that and you can get a whole bunch of people into in that exemption that --

MARK SEDDON: That want to become exempt, yeah.

JAMES FUTCH: Don't arrive at through logic.

ADAM WEAVER: Allow them to comment, so other people want to say, oh.

GEORGE GILBRIDE: You open a Pandora's box.

REBECCA McFADDEN: Right. I think they should have some kind of a credential or at least training with radiation protection. Seeing all those swallowing studies as a technologist and the amount of radiation that goes on. We even had where our staff behind the control panel would turn it on and off for them because of the amount of time they were spending in the room with that.

MARK SEDDON: Right. I mean, speech pathologists are licensed. I mean, it's a licensed profession.

REBECCA McFADDEN: Not in radiation.

MARK SEDDON: Not in radiation, but as a profession.

GEORGE GILBRIDE: Sometimes they have a

tendency to stand on that parapet, too.

REBECCA McFADDEN: Oh, yeah.

MARK SEDDON: I think -- I think the radiologists, it is a popular concept from a radiologist's perspective because they're like, we're just sitting here not doing anything because they're not really part of the procedure. They're sort of there just because they have to be there.

REBECCA McFADDEN: We don't have radiologists in -- I mean, some of the hospitals where I've been recently, they have the speech pathologists and an x-ray tech. They don't have the radiologist. The radiologist will interpret the images once they're sent, but they aren't in the room during that. They stopped doing that a while back.

MARK SEDDON: That's the regulation.

JAMES FUTCH: So let me toss this out, Clark. Obviously, I'll put a caveat in here. It's the end of the council meeting. We didn't really think this out ahead of time. What comes out of my mouth may not be what we end up doing or even close to it.

(Laughing)

MARK SEDDON: This is opinion, not official statement.

JAMES FUTCH: The general supervision could be

a, honestly, a licensed practitioner who's somewhere else in the -- radiologist somewhere else, you know, over this area of imaging. So that, that accomplishes the 468 requirement of supervision of the general radiographer. The general radiographer can't provide the interpretation or the determination of where to image. That's the part that the statute 468 envisions having to come from a licensed practitioner. Maybe that's not true.

ADAM WEAVER: So that would involve interpretation.

JAMES FUTCH: Not by -- as long as it's not the general radiographer and they have general supervision from a licensed practitioner.

ADAM WEAVER: Who would --

MARK SEDDON: But the general radiographer is allowed to use fluoroscopy for positioning purposes only. Which is the bottom of that --

JAMES FUTCH: Yeah.

MARK SEDDON: -- little regulation.

CLARK ELDRIDGE: Right. And my understanding is the other thing is, you know, questioning was this bolus appropriate. Does it show the details we needed, et cetera. The radiographer, that's outside their scope, and they're -- isn't it sort of

outside?

JAMES FUTCH: That's what we're trying to prevent was if that speech language pathologist can't make this determination, they can't rely upon the general radiographer to do it because that's pulling them back into the practice of medicine.

CLARK ELDRIDGE: Right. Right. So that's the, the difficulty that we have.

JAMES FUTCH: Clark, we should put the regulation up there so the new folks --

CLARK ELDRIDGE: I'm looking for the code right now.

JAMES FUTCH: It's okay.

MARK SEDDON: Sorry for bringing it up.

JAMES FUTCH: No, no. We all know it.

GEORGE GILBRIDE: You figure the speech path should know if they're looking at sinuses or whatever. They should know the anatomy.

MARK SEDDON: Yeah. They should know it. They're just not considered licensed practitioners by statute, but our regulations states it has to be a licensed practitioner to perform fluoroscopy. And that's where it's gets very gray here.

JAMES FUTCH: It doesn't explicitly say you have to be a licensed practitioner to perform it

because we know the general radiographers are performing it.

MARK SEDDON: In certain situations.

JAMES FUTCH: It's the general radiographers performing it pursuant to an order from the direction of a licensed practitioner.

CLARK ELDRIDGE: Yeah. A person shall not perform fluoroscopic imaging or otherwise expose a human to x-rays from a fluoroscopic system unless that person is a licensed practitioner as that term is defined in Section 468. Certified radiological assistant practicing in accordance with the requirements of 468. Certified general radiographer practicing in accordance with requirements of 468. A general -- and then general radiographer has been trained and authorized in writing by a licensed practitioner charged to perform the specified imaging and the specified imaging does not rely on the general radiographer to provide any diagnostic interpretation or to determine suspicious areas for additional imaging or to otherwise modify the scope of authorization for the imaging, and the specified imaging is designed to prevent or reduce exposure to patients by facilitating proper location and positioning for the authorized radiographic imaging.

JAMES FUTCH: So could the physician who complies with this, delegate to the speech language pathologist if any deviations need to be made that they can make the determination? Is that allowed?

CLARK ELDRIDGE: If that's -- I mean, it would come under the whole physician extender standards and how --

JAMES FUTCH: We're getting into areas that sound like Board of Medicine issues.

CLARK ELDRIDGE: Board of Medicine, yeah. So how they would interpret who's a legitimate physician extender and what's the protocol? So, yes, if they would be considered by them, with the appropriate written protocol, then they could.

GEORGE GILBRIDE: Would that individual, that physician, be able to see the images, so they can say, you know, yay or nay or which way to go.

JAMES FUTCH: If they could -- if this was, like, online some place so they're in there and they don't really -- I don't know exactly which part the doctor needs to say and which part the speech language pathologist needs to say. But if they had that communication, they wouldn't have --

GEORGE GILBRIDE: It wouldn't be a problem at this point, yeah.

MARK SEDDON: If they're, like, just down the hall, if there is a question, they can pop in and say, we need a physician thing, it changes things.

REBECCA McFADDEN: It would be under the supervision.

MARK SEDDON: Yeah. So it's that direct supervision but not personal supervision.

CLARK ELDRIDGE: Yeah. That would meet the, yeah, the extended.

REBECCA McFADDEN: Called the gray areas.

MARK SEDDON: Yeah.

JAMES FUTCH: That's what happens when you try and write statutes and rules to fit the real world. The real world changes.

GEORGE GILBRIDE: It's gray, it's very gray in the real world.

CLARK ELDRIDGE: MQA had to add some more to this. I'm not sure exactly what word to use. But a case where the doctor was performing a surgery in suite one and his physician extender was doing laparoscopic -- not laparoscopic. Fat removal in suite two next door. And so they're both doing cosmetic procedures at the same time. And that was being accepted as the appropriate level of supervision for a unlicensed individual who was a

physician extender to perform the procedure.

RANDY SCHENKMAN: It was or was not?

CLARK ELDRIDGE: Excuse me?

JAMES FUTCH: Who was doing the other procedure in the other room?

RANDY SCHENKMAN: Was or was not?

CLARK ELDRIDGE: It was. Well, this was, how shall I -- I don't know. This was what was told to me by Ferguson.

JAMES FUTCH: That was a while ago.

CLARK ELDRIDGE: MQA investigation. I understood from him to say it was allowed. Or it was not prosecuted or whatever somehow.

JAMES FUTCH: Okay. So, statute, reg. What's, what's, what's optimal, what should be, what happens in the real world, what gets investigated, what the lawyers want to prosecute and what they can succeed in prosecuting is many different things.

CLARK ELDRIDGE: So this may have been the standard that the lawyers didn't think they could prosecute it. They did not proceed any further against that physician for doing that.

MARK SEDDON: Right.

JAMES FUTCH: Yeah. Okay. I think I've said all I could say.

ADAM WEAVER: I think it might have to wait until next time.

JAMES FUTCH: I think so.

MARK SEDDON: All right. Thank you for the dialogue.

RANDY SCHENKMAN: Okay. So do we have any old business to discuss?

(No Response)

RANDY SCHENKMAN: No? We've already talked about the next meeting. So our meeting is now adjourned unless anybody has anything else.

CLARK ELDRIDGE: Don't one of you have to move first to adjourn it?

RANDY SCHENKMAN: Okay. Who wants to make the motion?

ADAM WEAVER: Second. He made the motion.

MARK SEDDON: I made the motion. He seconded it.

RANDY SCHENKMAN: Okay. Vote?

ADAM WEAVER: We all approve.

RANDY SCHENKMAN: Everybody approve?

ADAM WEAVER: We don't want to stay longer.

REBECCA McFADDEN: Aye.

RANDY SCHENKMAN: Any opposed?

(No Response)

RANDY SCHENKMAN: Okay. We are now adjourned.

(Proceedings concluded at 3:10 p.m.)

CERTIFICATE OF REPORTER

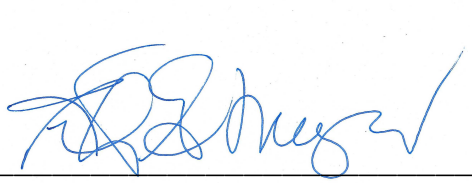
STATE OF FLORIDA:

COUNTY OF ORANGE:

I, RITA G. MEYER, RDR, CRR, CRC, do hereby certify that I was authorized to and did stenographically report the foregoing proceedings and that the foregoing transcript is a true and correct record of my stenographic notes.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties, attorneys or counsel connected with the action, nor am I financially interested in the outcome of the action.

DATED this 31st day of May, 2022.



RITA G. MEYER, RDR, CRR, CRC