Lou Witt:
Thank you. Thank you, Josh and thank you, Josh. What we'd like to do now is talk a little bit about the resources that we have available for you, and we'll show you some slides on that in a minute. And then we'll take some questions from the audience. We had a few earlier that came in while the presentation was going on. All right, one came in. Josh, either Josh on this one. One came in and asked, what do you use to seal cracks with?
Joshua Miller:
Sealing cracks in concrete, you have a couple of different options. I shy away from silicone because silicone is only temporary permanent. I prefer, it's kind of a nasty stuff, but I prefer urethane-based caulks which lasts nearly a lifetime of the building. You can also use expanding grouts or expanding cements. Hydraulic cement is one that we use routinely. Oh, and as well as expanding spray foam but use it in the appropriate place.
Lou Witt:
OK. Thank you for that. One other question came in. Could you explain the stack on the roof? And I think they're referring to the vent stack.
Joshua Miller:
The second vent on the roof in particular, that's the brainchild of a local radon contractor. The exhaust is offset to control some of the condensation or precipitation that may fall into that vent stack. He says that it gives him longer fan life. Now, that's only anecdotal evidence and it was really the best picture

that I had to show the radon vent stack going through the roof a building. To bring it to a residential side of things, we rarely in Minnesota use those condensation offsets at all. We just vent it straight through, so it looks like nothing more than like a plumbing stack. But if you do have larger vent pipe, you might have things falling in it. So, precautions should be taken to ensure that the fan runs all the time and it isn't blocked by something.

Lou Witt:

Once a school has been tested and found that there are no spaces above four, is there any reason to retest that building in the future, even if no changes has been made to it?

Joshua Miller:

Yes. In general, our recommendation has been every five years to retest or during any building change. Just because there was no remodeling or no changing HVAC equipment doesn't mean that the building wasn't moving in those five years or that the HVAC system may have lost a damper along the way. There are a lot of different things that can go wrong in the HVAC system especially that can cause radon levels to vary greatly through the years.

Lou Witt:

OK. Well, another question for Josh or Josh. Are you allowed to have a fan in the attic or does it have to go outside?

Joshua Miller:

It needs to be in an unconditioned space. In general, schools don't have attics. A lot of times, the attics of schools are actually a return plenum for the whole HVAC system. And both of our examples there, the fan is on the roof because it's only place where it's actually in a ventilated space to the outdoors. Because what can happen if the fan is released or some bushing comes lose, we could be, you know, sucking out a few thousand picocuries and especially if it's in the return plenum, which could be their attic or in a crawl space, you know, and are pumping thousand picocuries into the building and distributing it around for everyone.

Joshua Kerber:

And unfortunately, we may never know that.

Lou Witt:

All right, another question. Is there a recommended minimum horsepower vacuum to use?

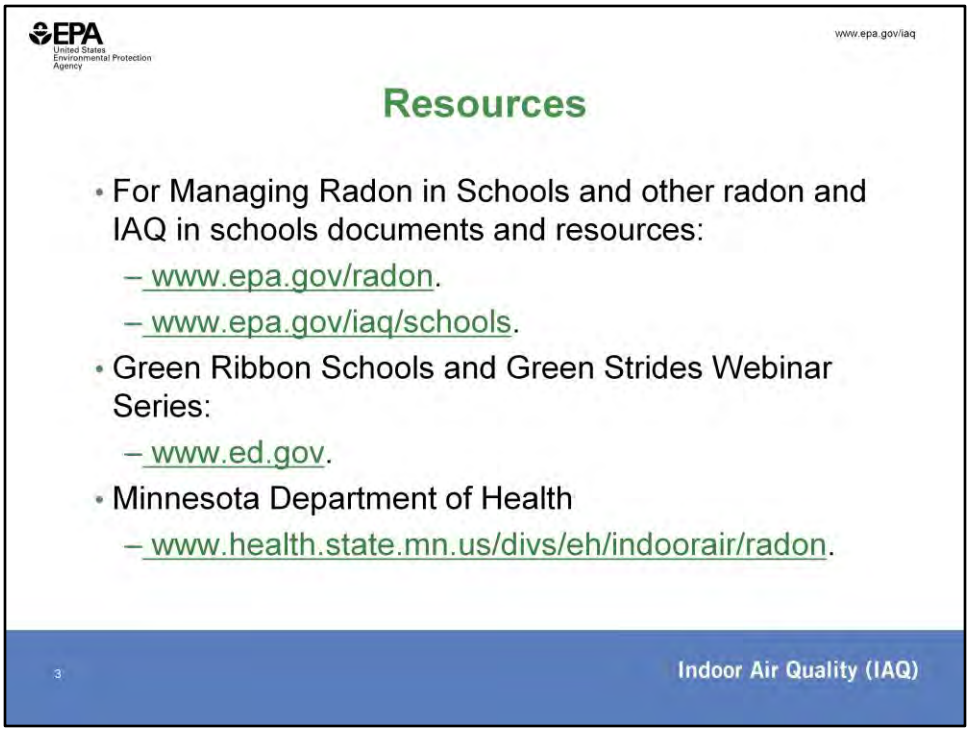
Joshua Miller:

No, horsepower's bad to judge on because as Kerber went through, you really have to know if you need flow or if you need suction. They're two completely different types of fans, but they also have the same horsepower rating. So, you really have to look at the combination of required CFM to pressure. Essentially, you have to look at the different fan curves of each fan to match up where your predicted specs are going to be on the fan and if it can actually handle it.

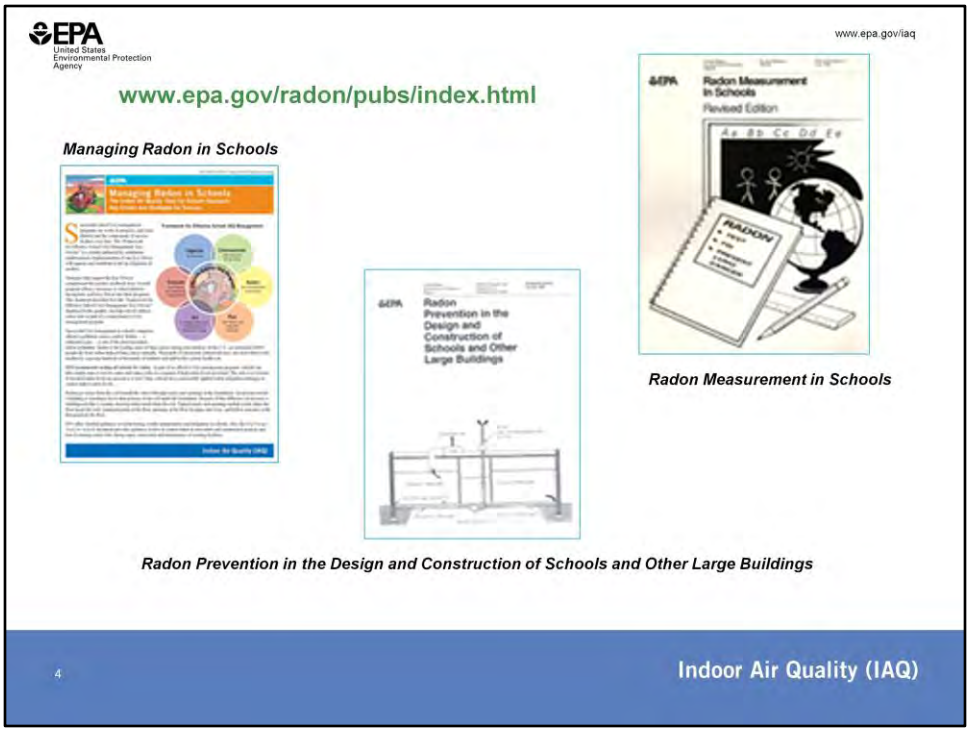
Lou Witt:
And another question came in. Do you get a lot of questions about using HEPA or carbon filters to reduce radon levels?
Joshua Miller:
No, we don't get a lot of questions about it. I think a lot of the reason is people don't know a ton about radon to understand that filtering may or may not make an effect on it. Filtering's not the solution for radon, and if you do have really high radon levels, you'd actually be creating some other problems inadvertently that you don't want to deal with.
Lou Witt:
Ok, any other questions from our audience? OK, here's one that came in. Only one classroom in a building is identified as being high, do you install a mitigation system to only that classroom or install various systems throughout that building?
Joshua Miller:
Well, the deal with radon reduction or radon mitigation systems is that we're only going to attack the classrooms that need to be fixed. So, if you have just one classroom that's shown to be a problem, we're going to focus our efforts on that classroom, and that classroom only.
And some schools have just taken the stance whether it's just one room in a basement or one office that's in a locker room, or if the maintenance room becomes high - a lot of times their mitigation plan is actually just to move people out of that room and utilize a different part of the building, which is fully acceptable too as long as they have that in their documented plan.
Lou Witt:
OK. What's the correct way to pronounce picocurie? I think it's picocurie.
Joshua Miller:
I'll go with what you said. Tomato – tomato, really.
Lou Witt:
I have heard it pronounced Pico – I think it is Pico though.

OK, well any other questions, please contact our presenters or contact Jani Palmer or myself at EPA. We'll give you our contact information in just a minute, but for all the questions that did come in and the answers that we were provided, we'll post those to our EPA website. We'll show you that URL in just a second. OK, there it is. Give us a week or two, a couple of weeks, and we'll have the slides up. We'll have the audio up. There'll be 508 compliant. We'll have a list of the questions and answers more than likely pulled together by that time also.

As I've said at the very beginning, a lot of this is geared towards applying for the Green Ribbon Schools award and you can visit that website and get more information on that and I hope you certainly do.



As you go about working on your schools to test or to mitigate, please consider the resources that EPA and the State of Minnesota make available to you. Some of our documents are a little bit dated, but the information is still valid. The protocols are still valid as Josh said earlier. We're working on some new standards for radon testing and mitigation at schools, but until that becomes available, what we have is still good and then certainly usable. So, please consider these three websites. I guess there are four websites as some primary resources for you.



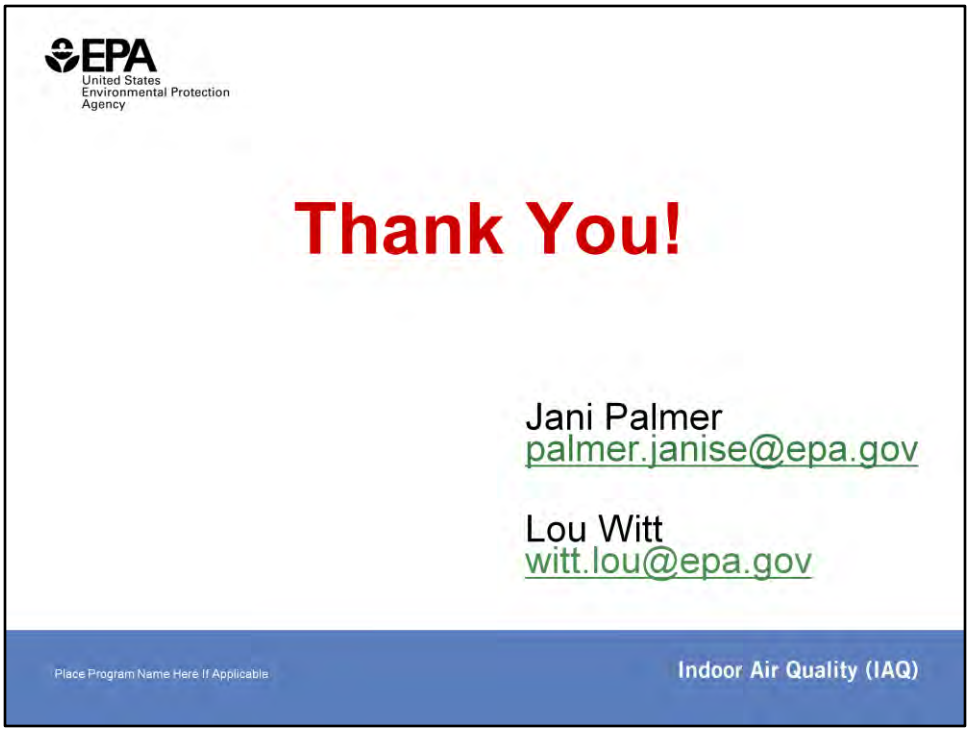
So, please consider these three websites. I guess there are four websites as some primary resources for you.

EPA United States Environmental Protection Agency

www.epa.gov/iaq

Upcoming Webinars

Please view EPA's *IAQ Tools for Schools* website for upcoming webinars: http://www.epa.gov/iaq/schools/.



So, in conclusion, I'd like to thank all the people that signed up today. As I said, please go to our website. If you have questions, contact Jani Palmer, contact me. I know Josh and Josh are both always willing and open to discuss the technical and the problematic aspects of this, so please make yourselves known and we'll be in touch at the next webinar.
So, thank you very much. Thank you, Joshes. I sure appreciate it.